

71368-102

08/29/2013

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Matthew Granahan  
Nufarm, Inc.  
11901 S. Austin Ave.  
Alsip, IL 60803

AUG 29 2013

Subject: Notification; Per PR-Notice 98-10  
Panther Herbicide  
EPA Reg. No. 71368-102  
Date Submitted: August 27, 2013

Dear Mr. Granahan:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated August 27, 2013 for the product referenced above. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions regarding this letter, please contact Kable Bo Davis at (703) 306-0415 or [davis.kable@epa.gov](mailto:davis.kable@epa.gov).

Sincerely,

  
Kathryn Montague for  
Product Manager 23  
Herbicide Branch  
Registration Division (7505P)



Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060

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<b>EPA</b>	United States <b>Environmental Protection Agency</b> Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number
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### Application for Pesticide - Section I

1. Company/Product Number 71368-102	2. EPA Product Manager Kathryn Montague	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Panther Herbicide / ABN - Tuscany Herbicide	PM# 23	
5. Name and Address of Applicant (Include ZIP Code) Nufarm Inc. 11901 S. Austin Ave. Alsip, IL 60803 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>NOTIFICATION</b>  <b>AUG 29 2013</b>
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

Label Notification consistent and 98-10, see cover letter for detailed explanation. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make false statements to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

### Section - III

1. Material This Product Will Be Packaged In:						2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic	<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container	<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input checked="" type="checkbox"/>			
6. Manner in Which Label is Affixed to Product		<input checked="" type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled	<input checked="" type="checkbox"/> Other Self-Adhesive Integrated Label/Booklet				

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Matt Granahan	Title Regulatory Manager	Telephone No. (Include Area Code) (708) 377-1421
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received  <b>(Stamped)</b>  _____ _____ _____ _____
2. Signature 	3. Title Regulatory Manager	
4. Typed Name Matt Granahan matthew.granahan@us.nufarm.com	5. Date 08/27/2013	



August 27, 2013

Via Overnight Courier

Kathryn Montague (PM-23)  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U. S. Environmental Protection Agency  
RoomS-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

**Subject: EPA Reg. No. 71368-102  
Notification per PRN 98-10**

Dear Ms. Montague:

Nufarm Inc. would like to make a change per PR Notice 98-10 to the label of Panther Herbicide [ABN - Tuscany Herbicide], EPA Reg. No. 71368-102. Resulting from a review by CADPR Nufarm wishes denote the following three weeds as "Not for use in California":

*Field Pennycress, Prickly Sowthistle, False Chamomile*

This Notification is thought to be consistent with PRN 98-10 and as such no PRIA fee has been rendered.

To process this request please find enclosed the following:

- Application for Pesticide Registration EPA Form 8570-1
- Revised Label – Highlighted and Clean (1 Copy of each)
- Label Certification Form
- CD with Clean Version of Label

If you should have any questions regarding this matter, please feel free to contact me at (708) 377-1421 or [matthew.granahan@us.nufarm.com](mailto:matthew.granahan@us.nufarm.com).

Sincerely,

Matthew P. Granahan  
Regulatory Manager

CC: [illegible]

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**GROUP 14 HERBICIDE**

# PANTHER<sup>TM</sup> HERBICIDE

**NOTIFICATION  
AUG 29 2013**

**ABN: TUSCANY<sup>TM</sup> HERBICIDE**

FOR CONTROL AND/OR SUPPRESSION OF CERTAIN WEEDS IN ALMOND, ALFALFA, ASPARAGUS, BUSHBERRIES, CELERY, COTTON, CUCURBIT VEGETABLES, DRY BEANS, FIELD CORN, FRUITING VEGETABLES (INCLUDING OKRA), GARLIC, GRAPE, HOPS, MINT, NUT TREES (INCLUDING PISTACHIO), ONION (DRY BULB), PEANUT, POME FRUIT, POTATO, SOYBEAN, STONE FRUIT, STRAWBERRY, SUGARCANE, SWEET POTATO, NON-BEARING FRUIT AND NUT TREES, FALLOW LAND AND TO MAINTAIN BARE GROUND ON NON-CROP AREAS OF FARMS, ORCHARDS AND VINEYARDS.

**ACTIVE INGREDIENT:**

\*Flumioxazin ..... 51.0%

**OTHER INGREDIENTS:** ..... 49.0%

**TOTAL:** ..... 100.0%

*\*(2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione)*

This product is a water dispersible granule containing 51% active ingredient.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION – PRECAUCION**

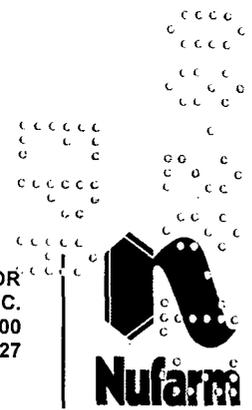
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

**SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS**

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300  
For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 71368-102  
EPA EST. NO.

MANUFACTURED FOR  
NUFARM INC.  
150 HARVESTER DRIVE, SUITE 200  
BURR RIDGE, IL 60527



**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION - PRECAUTION**

Harmful if inhaled or absorbed through the skin. Causes moderate eye irritation. Avoid breathing dust and spray mist. Avoid contact with skin, eyes or clothing.

<b>FIRST AID</b>	
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

**PERSONAL PROTECTIVE EQUIPMENT (PPE):**

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, shoes and socks.

**For aerial application to sugarcane, mixer/loaders must also wear:** coveralls, chemical resistant apron and chemical resistant boots.

Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS**

**Users Should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This product is toxic to non-target plants and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters.

This pesticide is toxic to plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, such as no till, limited till and contour plowing; these methods also reduce pesticide run-off. Use of vegetation filter strips along rivers, creeks, streams, wetlands or on the downhill side of fields where run-off could occur will minimize water run-off and is recommended.

**Note to EPA reviewer: if this product is shipped in containers greater than 50 lbs, the following environmental hazard statement will be added to the label:**

[Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.]

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read the entire label before using this product. Use strictly in accordance with label precautionary statements and directions, and with applicable state and federal regulations.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statement of this label about personal protective equipment (PPE) and restricted-entry interval (REI). The requirements in this box only apply to users of this product that are covered by the WPS.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is: coveralls, chemical resistant gloves made of waterproof material, shoes plus socks.

#### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the WPS for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural crops on farms, forests, nurseries, or greenhouses.

Keep all unprotected persons out of operating areas, or vicinity where there may be drift.

Do not enter or allow others to enter the treated area until sprays have dried.

#### RESISTANCE MANAGEMENT RECOMMENDATIONS

This product is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to this product and other Group 14 herbicides. Weed species with acquired resistance to Group 14 herbicides may eventually dominate the weed population if Group 14 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by this product or other Group 14 herbicides.

To delay herbicide resistance consider:

- Avoiding the consecutive use of this product or other target site of action Group 14 herbicides that might have a similar target site of action, on the same weed species.
- Using tank mixtures or premixes with herbicides from different target site of action Groups as long as the involved products are all registered for the same use, have different sites of action and are both effective at the tank mix or prepack rate on the weed(s) of concern.
- Basing herbicide use on a comprehensive Integrated Pest Management (IPM) program.
- Monitoring treated weed populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

For further information or to report suspected resistance, you may contact Nufarm at (630) 455-2000.

#### TANK MIXES

**NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, to the extent allowed by applicable law.**

Read and follow the entire label of each product to be used in the tank mix with this product.



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**DIRECTIONS FOR USE IN SOYBEAN**

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**STORAGE AND DISPOSAL**

## USE INFORMATION

This product provides residual control of susceptible weeds in almond, alfalfa, asparagus, bushberries, celery, cotton, cucurbit vegetables, dry bean, field corn, garlic, grape, hops, mint, nut trees (including pistachio), onion (dry bulb), non-bearing fruit and nut trees, peanut, pistachios, pome fruit, potato, soybean, stone fruit, strawberry, sugarcane and sweet potato.

This product provides additional burndown activity when used as part of a burndown program in almond, alfalfa, asparagus, celery, cotton, cucurbit vegetables, dry bean, field corn, fruiting vegetables (including okra) row middles, grape, hops, nut trees (including pistachio), non-bearing fruit and nut trees, peanut, soybean and sugarcane.

This product can be applied as part of a fall burndown program for control of susceptible winter annuals.

This product can be applied with a hooded or shielded sprayer, as well as part of a layby application, in cotton and sugarcane for postemergence weed control as well as residual control of susceptible weeds.

This product can be used on farms, orchards and vineyards for non-selective vegetation control to maintain bare ground non-crop areas that must be kept weed free.

Read tank mix product label for rates and weeds controlled. Always read and follow label directions for all tank mix products before using. The most restrictive labeling of any tank mix product must be followed. When this product is applied according to label use directions, will control the weeds claimed in crop specific use directions. This label makes no claims concerning control of other weed species.

### AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.

The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making decisions. Where states have more stringent regulations, they should be observed.

### RESTRICTIONS AND LIMITATIONS

- Do not apply this product when weather conditions favor spray drift from treated areas.
- Do not apply during low-level inversion conditions, including fog.
- Except for alfalfa, field corn and almond hulls, do not graze treated fields or feed treated forage or hay to livestock.
- When applying by air, observe drift management restrictions and precautions listed under "AERIAL APPLICATION".
- Do not apply more than 12 oz. of this product per acre during a single application.
- Do not apply more than 24 oz. of this product per acre during a twelve month period.
- Do not apply to frozen or snow covered soil.
- Mechanical incorporation into the soil will reduce residual weed control.
- Post directed and layby applications of this product should be applied only to healthy growing crops.
- Do not apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation.
- Do not apply within 300 yards of non-dormant pears.
- Do not apply to powdery soils or soils that are susceptible to wind displacement unless irrigation can be applied immediately after application.

**Spray equipment used to apply this product should not be used to apply other materials to any crop foliage, unless the proper cleanout procedures are followed. See "SPRAYER CLEANUP" for more information.**

### ENVIRONMENTAL CONDITIONS AND BIOLOGICAL PERFORMANCE

#### Preemergence Application (Conventional Tillage)

**Important:** Crop injury may occur from applications made to poorly drained soils and/or applications made under cool, wet conditions. Risk of crop injury can be minimized by using on well drained soils, planting at least 1.5 inches deep, using high quality seed and completely covering seeds with soil prior to preemergence applications. Treated soil that is splashed onto newly emerged crops may result in temporary crop injury.

Moisture is necessary to activate this product in soil for residual weed control. Dry weather following applications of this product may reduce effectiveness. However, when adequate moisture is received after dry conditions, this product will control susceptible germinating weeds. This product may not control weeds that germinate after application but before an activating rainfall/irrigation or weeds that germinate through cracks resulting from dry soil.

When adequate moisture is not received after an application of this product, weed control may be improved by irrigation with at least 1/4 inch of water. If emerged weeds are controlled by cultivation, residual weed control will be reduced.

#### Burndown Application

For best results, apply this product as part of a burndown program to actively growing weeds. Applying this product under conditions that do not promote active weed growth will reduce herbicide effectiveness. Do not apply this product when weeds are under stress due to drought, excessive water, extremes in temperature, disease or low humidity. Weeds under stress tend to become less susceptible to herbicidal action. This product is most effective when applied under warm sunny conditions.

Reduced residual weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist.

#### Postemergence Application

This product should only be applied to healthy crops labeled for postemergence use. Do not apply this product to crops that have been weakened by disease, drought, flooding, excessive fertilization, soil salts, previously applied pesticides, nematodes, insects or winter injury.

**Rainfastness**

This product is rainfast one hour after application. Applications should not be made if rain is expected within one hour of application or postemergence efficacy may be reduced.

**Soil Characteristics**

Application of this product to soils with high organic matter and/or high clay content may require higher dosages than soils with low organic matter and/or low clay content. Application to cloddy seedbeds can result in reduced weed control.

**HERBICIDE RATE****Residual Weed Control (Including Preemergence Applications or Applications as Part of a Fall or Spring Burndown and Fallow Seedbed Program)**

Based upon soil characteristics (organic matter content and texture), the most difficult to control weed species being targeted, and the crop being grown, select the proper dosage of this product from the rate range tables contained in this label.

**CARRIER VOLUME AND SPRAY PRESSURE (Ground Equipment only. See Information for Aerial Equipment under "AERIAL APPLICATION".)****Preemergence Application (Conventional Tillage)**

To ensure uniform coverage, use 10 to 30 gals of spray solution per acre for conventional tillage applications. Nozzle selection should meet manufacturer's gallonage and pressure specifications for preemergence herbicide application.

**Burndown Application (Prior to Crop Emergence)**

To ensure thorough coverage in burndown applications, use 15 to 60 gals spray solution per acre. Use 20 to 60 gals per acre if dense vegetation or heavy crop residue is present. Nozzle selection should meet manufacturer's gallonage and pressure specifications for postemergence herbicide application. Do not use flood jet nozzles.

**Postemergence Application (Emerged Crop)**

Check use directions for specific crops in which this product can be applied postemergence. To ensure thorough coverage in burndown applications, use a minimum of 15 gallons spray solution per acre. Use a minimum of 20 gallons per acre if dense vegetation or heavy crop residue is present. Nozzle selection should meet manufacturer's gallonage and pressure specifications for postemergence herbicide application.

**ADDITIVES****Burndown Application (Prior to Crop Emergence)**

Postemergence control of weeds from tank mixes of this product will require the addition of an agronomically approved adjuvant to the spray mixture. Either a crop oil concentrate or methylated seed oil which contains at least 15% emulsifiers and 80% oil or a non-ionic surfactant at 0.25%v/v, may be used when applying this product as part of a burndown program. Some tank mix partners, such as Roundup Power Max<sup>®</sup>, are formulated with sufficient adjuvants and do not require the addition of a crop oil concentrate, methylated seed oil or non-ionic surfactant when tank mixed with this product. The addition of a crop oil concentrate or methylated seed oil may increase the burndown activity on certain weeds such as cutleaf eveningprimrose and Carolina geranium. Mixing compatibility qualities should be verified by a jar test.

A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lbs./A or a 28 to 32% nitrogen solution at 1 to 2 qts./A) may be added to the spray mixture along with either a crop oil concentrate, methylated seed oil or non-ionic surfactant to enhance weed control. The addition of a nitrogen source does not replace the need for a crop oil concentrate, a methylated seed oil or a non-ionic surfactant.

**JAR TEST TO DETERMINE COMPATIBILITY OF ADJUVANTS AND THIS PRODUCT**

When using this product and an adjuvant, such as in stale seed bed, layby, hooded/shielded or reduced tillage situations, a jar test should be performed before mixing commercial quantities of this product, when using this product for the first time, when using new adjuvants or when a new water source is being used.

1. Add 1 pt. of the water to a quart jar. The water should be from the same source and temperature as which will be used in the spray tank mixing operation.
2. Add 1 g of this product to the quart jar for every 3 oz of this product per acre being applied (4 g if 12 oz/A is the desired rate of this product), gently mix until product goes into suspension.
3. Add 60 ml (4 Tbsp. or 2 fl. oz) of the crop oil or methylated seed oil to the quart jar or 1 ml of non-ionic surfactant if it is being used in place of oil, gently mix.
4. If nitrogen is being used, add 16 ml (1 Tbsp. or 0.5 oz) of the 28 to 32% nitrogen source to the quart jar. If ammonium sulfate is being used, add 19 g AMS to the quart jar in place of the 28 to 32% nitrogen.
5. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.
6. An ideal tank mix combination will be uniform and free of suspended particles. If any of the following conditions are observed the choice of adjuvant should be questioned:
  - a) Layer of oil or globules on the mixture's surface.
  - b) Flocculation: fine particles in suspension or as a layer on the bottom of the jar.
  - c) Clabbering: Thickening texture (coagulated) like gelatin.

**SPRAYER PREPARATION**

Before application of this product, start with clean, well maintained application equipment. The spray tank, as well as all hoses and booms, must be cleaned to ensure no residue from the previous spraying operation remains in the sprayer. Some pesticides, including but not limited to, the sulfonylurea and phenoxy herbicides, (i.e., Classic® and 2,4-D respectively) are active at very small amounts and can cause crop injury when applied to susceptible crops. The spray equipment must be cleaned according to the manufacturer's directions for the last product used before the equipment is used to apply this product. If two or more products were tank mixed prior to application of this product, the most restrictive cleanup procedure should be followed.

**MIXING INSTRUCTIONS**

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. If a drift retardant is to be used, add 10 lbs of spray grade ammonium sulfate per 100 gals of spray solution.
3. To ensure a uniform spray mixture, pre-slurry the required amount of this product with water prior to addition to the spray tank. Use a minimum of 1 gal of water per 10 oz of this product.
4. While agitating, slowly add the pre-slurry of this product to the spray tank. Agitation should create a rippling or rolling action on the water surface.
5. If tank mixing this product with other labeled herbicides, add water soluble bags first, followed by dry formulations, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
6. Add any required adjuvants.
7. Fill spray tank to desired level with water. **Agitation should continue until all spray solution has been applied.**
8. Mix only the amount of spray solution that can be applied the day of mixing. This product should be applied within 6 hours of mixing.

**SPRAYER CLEANUP**

Spray equipment, including mixing vessels and nurse tanks, must be cleaned each day following application of this product. After this product is applied, the following steps must be used to clean the spray equipment:

1. Completely drain the spray tank, rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens.
2. Fill the spray tank with clean water and flush all hoses, booms, screens and nozzles.
3. Top off tank, add 1 gal of 3% household ammonia (or equivalent) for every 100 gals of water, circulate through sprayer for 5 minutes, and then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes. If diaphragms are being used on the spray boom, loosen diaphragms before flushing the spray system, allowing cleaning solution to spray through the open diaphragm. If spray lines have any end caps, they must be loosened before flushing the system, allowing cleaning solution to spray through the loosened caps. To enhance removal of this product from the spray system, add a tank cleaner such as "Valent Tank Cleaner" from Valent U.S.A. Corporation, in place of ammonia and allow the cleaning solution to remain in the pressurized spray system (spray tank, hoses and boom) overnight before flushing the system for a minimum of 15 minutes.
4. Drain tank completely.
5. Add enough clean water to the spray tank to allow all hoses, booms, screens and nozzles to be flushed for 2 minutes.
6. Remove all nozzles and screens and rinse them in clean water.

Spray equipment, including all tanks, hoses, booms, screens and nozzles, should be thoroughly cleaned before it is used to apply postemergence pesticides. Equipment with residue of this product remaining in the system may result in crop injury to the subsequently treated crop.

**APPLICATION EQUIPMENT**

Application equipment should be clean and in good repair. Nozzles should be uniformly spaced on boom and frequently checked for accuracy.

**BROADCAST APPLICATION**

Apply this product and tank mixes of this product, with ground equipment using standard commercial sprayers equipped with flat fan or flood nozzles (preemergence applications only) designed to deliver the desired spray pressure and spray volume.

**BAND APPLICATION**

When banding, use proportionately less water and this product per acre. The rate of this product required per acre, when applied as a banded application, can be calculated with the following formula:

Amount Needed per Acre for Banded Application	=	$\frac{\text{Band Width in Inches}}{\text{Row Width in Inches}}$	X	Rate per Broadcast Acre
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**AERIAL APPLICATION**

Spray drift away from the site of application may cause damage to non-target vegetation. To minimize drift, apply the largest droplet size consistent with uniform coverage and satisfactory weed control. To obtain satisfactory application and avoid drift, the following directions must be observed:

- Do not apply during low-level inversion conditions (including fog), when winds are gusty or under other conditions that favor drift. Do not spray when wind velocity is less than 2 mph or more than 10 mph.
- Do not apply this product by air within 40 ft. of non-target plants including non-target crops.

- Do not apply this product by air within 100 ft. of emerged cotton crops.
- Do not apply this product by air within 40 ft. of streams, wetlands, marshes, ponds, lakes and reservoirs.
- **Carrier Volume and Spray Pressure:** When used as part of a burndown weed control program, apply this product in 7 to 10 gals of water per acre. Application at less than 7 gals per acre may provide inadequate control. When used for preemergence weed control, apply this product in 5 to 10 gals of water per acre. The higher gallonage applications generally afford more consistent weed control. Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Nozzle Selection and Orientation:** Formation of very small drops may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible and by avoiding excessive spray pressure. Use nozzles that produce flat or hollow cone spray patterns. Use non-drip type nozzles, such as diaphragm type nozzles, to avoid unwanted discharge of spray solution. The nozzles must be directed toward the rear of the aircraft, at an angle between 0 and 15° downward. Do not place nozzles on the outer 25% of the wings or rotors.
- **Adjuvants and Drift Control Additives:** Refer to tank mix partner's label for adjuvant recommendation. Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

**CHEMIGATION**

Follow all label instructions for crops regarding rates, timing of application, special instructions and precautions.

Apply this product only through center pivot systems. End guns must be turned off due to uneven application. Do not apply this product through any other type of irrigation system.

Crop injury, lack of efficacy or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

The system must be properly calibrated (with water only) to ensure that the amount of this product applied corresponds to the labeled rate.

Apply this product in 1/2 to 3/4 inches of water during the first sprinkler set. Allow time for all lines to flush the herbicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining herbicide, a dye indicator may be injected into the lines to mark the end of the application period. Once chemigation has begun, the run must be completed to ensure no product is left in the system.

If you have any questions about calibration, you should contact your State Extension Service Specialist, equipment manufacturers or other experts.

**Special Precautions for Chemigation**

1. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
2. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
3. The system must be free of leaks and clogged nozzles.
4. The pesticide must be supplied continuously for the duration of the aqueous application. An uneven application may cause injury to the crop or poor weed control.
5. Agitation must be maintained in the nurse tank.
6. The sprinkler chemigation system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
7. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
8. The pesticide injection pipeline must contain a functional, normally closed, solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in the case where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
10. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
11. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with the pesticides and capable of being fitted with a system interlock.
12. Do not apply when wind speed favors drift beyond the area intended for treatment.

**Chemigation Systems Connected to Public Water Systems**

1. Public water system means a system for the provision to the public of piped water for human consumption, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to the public water system must contain a functional, reduced pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. All Chemigation systems connected to the public water system must also follow restrictions listed in the preceding section titled "Special Precautions for Chemigation".

**APPLICATION WITH DRY BULK FERTILIZERS**

Dry bulk fertilizer may be impregnated or coated with this product. Application of dry bulk fertilizer with this product provides weed control equal to, or slightly below, the same rate of this product applied in liquid carriers, due to better coverage with application via spray equipment. Follow label instructions for this product regarding rates, special instructions, cautions and special precautions. Apply 400 to 700 lbs. of the fertilizer/herbicide mixture per acre to obtain adequate soil coverage. Apply the mixture to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury and to obtain uniform weed control.

Ammonium nitrate and/or limestone should not be used as the sole source of fertilizer, as this product may not adhere to these materials.

Compliance with all Federal and State regulations relating to blending pesticide mixtures with dry bulk fertilizer, registrations, labeling and application are the responsibility of the individual and/or company offering the fertilizer and mixtures of this product for sale.

This product must be premixed with water to form a slurry prior to impregnation on dry bulk fertilizer. For best results, use a minimum of 1 pt. of water for each 2 oz of this product. A minimum of 6 pts. of slurry of this product should be used to impregnate 2000 lbs. of the fertilizer for uniform coverage of the fertilizer. Closed drum, belt, ribbon or other commonly used dry bulk blenders may be used. The amount of this product required can be calculated with the following formula:

Ounces of This Product Per Ton of Fertilizer	=	Ounces of This Product Per Acre	X	2,000	÷	Pounds of Fertilizer Per Acre
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Thoroughly clean dry fertilizer blending equipment after this product has been placed in the system to avoid injury to sensitive crops that may be treated with fertilizers blended after the equipment has been used for this product. Rinse the sides of the blender and the herbicide tank with water. Then impregnate the rinsate onto a load of dry fertilizer intended for an approved crop. Use a maximum rate of 1 gal of rinsate per ton of fertilizer. Follow with 1 to 2 loads of unimpregnated fertilizer in the blender before switching herbicides.

**ROTATIONAL RESTRICTIONS**

The following rotational crops may be planted after applying this product at the listed rate. Planting earlier than the recommended rotational interval may result in crop injury.

- Do not plant any crop, except corn (field), cotton, peanut, soybean, sugarcane and sweet potato earlier than 30 days after applying this product.

TUSCANY HERBICIDE RATES	CROPS	ROTATION INTERVALS
1 oz/A	Cotton (no-till or strip-till only)	14 days <sup>1</sup>
1.5 to 2 oz/A	Cotton (no-till or strip-till only)	21 days <sup>1</sup>
2 oz/A or less	Peanut, Soybean, Sugarcane and Sweet Potato	immediately
	Field Corn (minimum and no-till)	7 days
	Cotton and Field Corn (conventional tillage), Rice, Sorghum, Sunflower, Tobacco and Wheat	30 days <sup>1</sup>
	Barley, Dry and Snap Beans, Flax, Peas, Rye, Safflower and Sweet Corn	3 months
	Alfalfa, Canola, Clover, Oats, Potato, Sugar Beet and all other crops not listed <sup>2</sup>	4 months if soil is tilled prior to planting
		8 months if no tillage is performed
Lentil	6 months	
Up to 3 oz/A	Peanut, Soybean, Sugarcane and Sweet Potato	immediately
	Field Corn (minimum and no-till)	14 days
	Field Corn (conventional tillage) and Sorghum	30 days <sup>1</sup>
	Cotton, Rice, Sunflower, Tobacco and Wheat	2 months <sup>1</sup>
	Barley, Dry and Snap Beans, Flax, Pea, Rye, Safflower and Sweet Corn	4 months
	Alfalfa, Clover, Oats, Potato, Sugar Beet	5 months if soil is tilled prior to planting
		10 months if no tillage is performed
	Canola and all other crops not listed <sup>2</sup>	6 months if soil is tilled prior to planting
Lentil	7 months	
Up to 4 oz/A	Sugarcane	immediately
	Cotton, Field Corn, Peanut, Rice, Sorghum, Soybean, Sunflower, Tobacco and Wheat	4 months

	Alfalfa, Canola, Potato, Sugar Beet and all other crops not listed <sup>2</sup>	6 months if soil is tilled prior to planting 12 months if no tillage is performed
	Transplanted on raised beds only: melon, pepper and tomato <sup>3</sup>	2 months (if the top 4 inches of the beds have been removed)
6 to 12 oz/A	Cotton, Field Corn, Peanut, Rice, Sorghum, Soybean, Sunflower, Tobacco and Wheat	9 months
	Alfalfa, Canola, Sugar Beet and all other crops not listed <sup>2</sup> Trees can be transplanted 2 months after an application of this product <sup>4</sup>	12 months if soil is tilled prior to planting 18 months if no tillage is performed

<sup>1</sup> At least one inch of rainfall/irrigation must occur between application and planting or crop injury may occur.

<sup>2</sup> Successful soil bioassay must be performed prior to planting crops.

<sup>3</sup> Arizona, California and Hawaii only: see DIRECTIONS FOR USE FALLOWBED USE ON TRANSPLANTED MELON, PEPPER AND TOMATO BEDS use instructions.

<sup>4</sup> Transplanted apple, apricot, avocado, bushberries (including blueberry), cherry, fig, grape, grapefruit, lemon, nectarine, nut trees (including pistachio), olive, orange, peach, pear, plum (including dried plum); and tangerine can be planted 2 months after application of 2 to 12 oz/A of this product.

**Table - Broadleaf Weeds Controlled by Residual Activity of This Product**  
**BROADLEAF WEED SPECIES**

SECTION A		ORGANIC MATTER	SOIL TYPE	TUSCANY HERBICIDE RATE
COMMON NAME	SCIENTIFIC NAME			
Carpetweed	<i>Mollugo verticillata</i>	Up to 5%	All Soil Types	2 oz/A
Chickweeds				
Common	<i>Stellaria media</i>			
Mouseear	<i>Cerastium vulgatum</i>			
Dandelion	<i>Taraxacum officinale</i>			
Eclipta	<i>Eclipta prostrata</i>			
Eveningprimrose, Cutleaf	<i>Oenothera laciniata</i>			
Field Pennycress	<i>Thlaspi arvense</i>			
Florida Pusley	<i>Richardia scabra</i>			
Henbit	<i>Lamium amplexicaule</i>			
Lambsquarters, Common	<i>Chenopodium album</i>			
Little Mallow	<i>Malva parviflora</i>			
Marestail/Horseweed	<i>Conyza canadensis</i>			
Mayweed/False Chamomile	<i>Matricaria maritima</i>			
Nightshades				
Black	<i>Solanum nigrum</i>			
Eastern Black	<i>Solanum ptycanthum</i>			
Hairy	<i>Solanum sarrachoides</i>			
Pigweeds				
Redroot	<i>Amaranthus retroflexus</i>			
Smooth	<i>Amaranthus hybridus</i>			
Spiny Amaranth	<i>Amaranthus spinosus</i>			
Tumble	<i>Amaranthus albus</i>			
Prickly Lettuce	<i>Lactuca serriola</i>			
Prickly Sida (Teaweed)	<i>Sida spinosa</i>			
Puncturevine	<i>Tribulus terrestris</i>			
Purslane, Common	<i>Portulaca oleracea</i>			
Radish, Wild	<i>Raphanus raphanistrum</i>			
Redmaids	<i>Calandrinia ciliata</i> var. <i>menziessii</i>			
Shepherd's-purse	<i>Capsella bursa-pastoris</i>			
Smallflower Morningglory	<i>Jacquemontia tamnifolia</i>			
Sowthistle, Prickly	<i>Sonchus asper</i>			
Spotted Spurge	<i>Euphorbia maculata</i>			
Venice Mallow	<i>Hibiscus trionum</i>			

Table - Broadleaf Weeds Controlled by Residual Activity of This Product (continued)

SECTION B

All weeds listed in Section A plus:

COMMON NAME	SCIENTIFIC NAME	ORGANIC MATTER	SOIL TYPE	TUSCANY HERBICIDE RATE <sup>2</sup>
Coffee Senna	<i>Cassia occidentalis</i>	Up to 3%	All Soil Types	2 oz/A Cotton and Dry Bean 2.5 oz/A Field Corn and Soybean 3 oz/A Peanut and all other labeled crops 2.0 to 3.0 oz/A
Common Ragweed <sup>1</sup>	<i>Ambrosia artemisiifolia</i>			
False Chamomile	<i>Tripleurospermum maritima</i>			
Florida Beggarweed	<i>Desmodium tortuosum</i>			
Golden Crownbeard	<i>Verbesina encelioides</i>			
Hairy Indigo	<i>Indigofera hirsuta</i>	3 to 5%	Coarse and Medium Soils (sandy loam, loamy sand, loamy, silt-loam, silt, sandy clay, sandy clay loam)	2 oz/A Cotton and Dry Bean 2.5 oz/A Field Corn and Soybean 3 oz/A Peanut and all other labeled crops 2.0 to 3.0 oz/A
Hemp Sesbania	<i>Sesbania exaltata</i>			
Jimsonweed	<i>Datura stramonium</i>			
Kochia	<i>Kochia scoparia</i>			
London Rocket	<i>Sisymbrium irio</i>			
Morningglories <sup>3</sup>				
Entireleaf	<i>Ipomoea hederacea</i> var. <i>integriuscula</i>			
Ivyleaf	<i>Ipomoea hederacea</i>			
Red/Scarlet	<i>Ipomoea coccinea</i>			
Tall	<i>Ipomoea purpurea</i>			
Mustard, Wild	<i>Brassica kaber</i>	3 to 5%	Fine Soils: (silty clay, silty clay, loam, clay, clay loam)	2 oz/A Cotton and Dry Bean 3 oz/A Field Corn, Peanut, Soybean, and all other labeled crops 2.0 to 3.0 oz/A
Palmer Amaranth	<i>Amaranthus palmeri</i>			
Spurred Anoda	<i>Anoda cristata</i>			
Tropic Croton	<i>Croton glandulosus</i>			
Waterhemp <sup>1</sup>				
Common	<i>Amaranthus rudis</i>			
Tall	<i>Amaranthus tuberculatus</i>			
Wild Poinsettia	<i>Euphorbia heterophylla</i>			
Yellow Rocket	<i>Barbarea vulgaris</i>			

<sup>1</sup> A postemergence herbicide, such as Cobra<sup>®</sup>, Phoenix<sup>™</sup> or glyphosate (Roundup Ready<sup>®</sup> soybeans only) may be needed following a preemergence application of this product to adequately control common ragweed or waterhemp in soybean fields with heavy pressure.

<sup>2</sup> Due to differences in crop canopy timing between peanuts and soybeans, 3 oz/A of this product should be used in peanuts, regardless of soil type and organic matter content, except in the states of North Carolina, Oklahoma and Virginia where a maximum of 2 oz/A can be applied in peanuts. This product will provide residual control of these weeds at 2 oz/A when applied under a cotton canopy.

<sup>3</sup> Morningglory species are not adequately controlled on fine soils or soils with greater than 3% organic matter.

**Table - Weeds Suppressed by Residual Activity of This Product**

BROADLEAF WEED SPECIES		ORGANIC MATTER	OUNCES PER ACRE
COMMON NAME	SCIENTIFIC NAME		
Bristly Starbur	<i>Acanthospermum hispidum</i>	Up to 5%	2.0 to 3.0
Copperleaf, Hophornbeam	<i>Acalypha ostryifolia</i>		
Ragweed, Giant	<i>Ambrosia trifida</i>		
Russian Thistle	<i>Salsola iberica</i>		
Smartweeds			
Ladysthumb	<i>Polygonum persicaria</i>		
Pennsylvania	<i>Polygonum pensylvanicum</i>		
Smellmelon	<i>Cucumis melo</i>		
Velvetleaf	<i>Abutilon theophrasti</i>		
Wild Buckwheat	<i>Polygonum convolvulus</i>		
Wormwood, Biennial	<i>Artemisia biennis</i>		
<b>GRASS WEED SPECIES</b>			
Barnyardgrass	<i>Echinochloa crus-galli</i>	Up to 5%	1.5 to 3
Bluegrass, Annual	<i>Poa annua</i>		
Crabgrass, Large	<i>Digitaria sanguinalis</i>		
Foxtail, Giant	<i>Setaria faberi</i>		
Goosegrass	<i>Eleusine indica</i>		
Lovegrass, California	<i>Eragrostis diffusa</i>		
Panicums			
Fall	<i>Panicum dichotomiflorum</i>		
Texas	<i>Panicum texanum</i>		
Ryegrass, Italian	<i>Lolium multiflorum</i>		
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>		
Cheat	<i>Bromus secalinus</i>		
Downy Brome	<i>Bromus tectorum</i>		

**DIRECTIONS FOR USE IN FALL AND SPRING PREPLANT BURNDOWN AND FALLOW SEEDBED PROGRAMS IN FIELD CORN, PEANUT AND SOYBEAN (Preemergence to Crop)**

[For Use in the States of Arizona, California and Hawaii Only]

**RESTRICTIONS AND LIMITATIONS**

- Do not apply to frozen or snow covered soil.
- Do not perform any tillage operation after application or residual weed control will be reduced.
- [Observe all rotational intervals prior to planting as listed in the "ROTATIONAL RESTRICTIONS" table.]

**FALL BURNDOWN AND FALLOW SEEDBED PROGRAMS**

This product [, at 2 to 4 oz/A] can be used in the fall to provide residual weed control in fields that will be planted the following spring with field corn, peanut or soybean [(refer to **Rotational Restrictions** table for rates and rotational intervals prior to planting)]. Weeds controlled by residual activity are listed in Table **Broadleaf Weeds Controlled by Residual Activity of This Product** (sections A and B), **Broadleaf Weeds Controlled by Residual Activity of This Product**; Table - **Weeds Controlled by Fall and Spring Preplant Burndown Programs**; and Table - **Weeds Controlled by Residual Activity of This Product**. If weeds have emerged at the time of application, use this product in combination with a labeled burndown herbicide. [Application must be made no earlier than October 15 in Region 2 or November 15 in Region 1 or when soil temperature falls below 50°F at a 2 inch depth to maintain residual weed control into the spring (April 1 in Region 1 and May 1 in Region 2) or up until planting, whichever comes first.] This product can be used in a fall burndown or fallow seedbed program [outside of Regions 1 and 2], however the length of residual control may be variable.

Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

Fall Application Regions:

Region 1: Alabama, Arkansas, Georgia, Kentucky, Mississippi, Oklahoma, Tennessee and Virginia

Region 2: Delaware, Kansas, Illinois, Indiana, Iowa, Maryland, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota, West Virginia and Wisconsin]

Weeds controlled by postemergence or residual activity are listed in Table - Weeds Controlled by Fall and Spring Preplant Burndown Programs. Preplant burndown treatment tank mixes and rates are:

Herbicide	Rate
<b>Program 1<sup>1</sup></b>	
Panther Plus	2 to 3 oz/A
Glyphosate Plus	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of Roundup Original <sup>®</sup> )
2,4-D LVE (2,4-D for use on preplant soybeans only) Plus	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of 2,4-D 4 LVE)
NIS + AMS	0.5% v/v + 17 lbs/100 gals of water

or

<b>Program 2<sup>1</sup></b>	
Panther Plus	2 to 3 oz/A
Glyphosate Plus	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of Roundup Original)
COC <sup>2</sup>	1pt/A
or	or
NIS + AMS	0.5% v/v + 17 lbs/100 gals of water

or

<b>Program 3<sup>1</sup></b>	
Panther Plus	2 to 3 oz/A
2,4-D LVE (2,4-D for use on preplant soybeans only) Plus	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of 2,4-D 4 LVE)
COC	1 pt/A

<sup>1</sup> Dicamba (Banvel<sup>®</sup> or Diablo<sup>®</sup>), at 0.188 lb ai/A (6 fl oz/A of Banvel 4 or Diablo) can be added to Programs 1, 2 & 3 to assist in the control of emerged broadleaves. Refer to dicamba label for rotational restrictions.

<sup>2</sup> Crop oil concentrate has been found to increase glyphosate burndown of emerged cutleaf eveningprimrose and Carolina geranium.

Table - Weeds Controlled by Fall and Spring Preplant Burndown Programs

WEEDS CONTROLLED <sup>1</sup>		POSTEMERGENCE			RESIDUAL
		Program 1	Program 2	Program 3	
COMMON NAME	SCIENTIFIC NAME	Weeds 3 inches or less			
Chamomile, False	<i>Matricaria maritime</i>	Yes	Yes	No	Yes
Cheatgrass	<i>Bromus tectorum</i>	Yes	Yes	No	Yes
Chickweed, Common	<i>Stellaria media</i>	Yes	Yes	No	Yes
Chickweed, Mouseear	<i>Cerastium vulgatum</i>	Yes	Yes	No	Yes
Cockle, White	<i>Silene latifolia</i>	No	Yes	Yes	Yes
Dandelion	<i>Taraxacum officinale</i>	Yes	No	Yes <sup>2</sup>	Yes
Deadnettle, Purple	<i>Lamium purpureum</i>	Yes	Yes	Yes	Yes
Groundsel, Cressleaf	<i>Senecio glabellus</i>	Yes	Yes	-	Yes
Henbit	<i>Lamium amplexicaule</i>	Yes	Yes	Yes	Yes
Kochia	<i>Kochia scoparia</i>	Yes	Yes	Yes	Yes
Marestail/Horseweed	<i>Conyza canadensis</i>	Yes	Yes <sup>3</sup>	Yes	Yes
Mallow, Common	<i>Malva Neglecta</i>	Yes	Yes	No	Yes
Prickly Lettuce	<i>Lactuca scariola</i>	Yes	Yes	Yes	Yes
Wormwood, Biennial	<i>Artemisia biennis</i>	Yes	Yes	Yes	Yes
Weeds 12 inches or less					
Canola, Volunteer	<i>Brassica napus</i>	Yes	Yes	Yes	Yes
Carolina Geranium	<i>Geranium carolinianum</i>	Yes	Yes	Yes	-
Eveningprimrose, Cutleaf <sup>4</sup>	<i>Oenothera laciniata</i>	Yes	Yes	Yes	Yes
Flixweed	<i>Descurainia sophia</i>	Yes	Yes	Yes	Yes
Mustard, Tansy	<i>Descurainia pinnata</i>	Yes	Yes	Yes	Yes
Mustard, Wild	<i>Brassica kaber</i>	Yes	Yes	Yes	Yes
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	Yes	Yes	Yes	Yes

- <sup>1</sup> Refer to glyphosate and/or 2,4-D labels for additional weeds controlled and rotational restrictions.
- <sup>2</sup> 1 lb ai/A of 2,4-D LVE (equivalent to 2 pt/A of 2,4-D 4 LVE) should be used for control of emerged dandelion.
- <sup>3</sup> Program 2 will not control emerged glyphosate resistant maretail/horseweed.
- <sup>4</sup> Program 1 should be used to control cutleaf eveningprimrose that are nearing 12 inches in height or are past the rosette stage. Programs 2 or 3 should be used to control cutleaf eveningprimrose that are 12 inches or less and in the rosette stage.

**SPRING BURNDOWN PROGRAMS**

This product may be used in combination with labeled preplant burndown herbicides to assist in the postemergence burndown of emerged weeds and provide residual weed control prior to crop emergence. Weeds controlled by residual activity are listed in Table **Broadleaf Weeds Controlled by Residual Activity of This Product**.

No-till planters that incorporate the soil during planting may result in decreased weed control in the row. Apply this product after planting peanuts and soybeans when these types of planters are used (within 3 days after planting soybeans, within 2 days after planting peanuts and before the crop emerges). This product cannot be applied after planting field corn.

This product can be used [at 1 to 3 oz/A] with labeled preplant burndown herbicides to enhance the speed of burndown and increase weed spectrum.

This product can be used [at 1 to 3 oz/A [1 to 2 oz/A]] in field corn, peanut and soybean burndown programs. See "DIRECTIONS FOR USE IN FIELD CORN", "DIRECTIONS FOR USE IN PEANUT", "DIRECTIONS FOR USE IN SOYBEAN" for more information.

## DIRECTIONS FOR USE IN FALLOWBED USE ON TRANSPLANTED MELON, PEPPER AND TOMATO BEDS

[For Use in the States of Arizona, California and Hawaii Only]

### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 4 oz of this product per acre during a single application.
- Do not apply more than 4 oz of this product per acre during a single growing season.

Many weather related factors, including high wind or heavy rains or cool conditions at or near crop transplanting, may result in crop injury in fields treated with this product. On occasion this has resulted in a delay in maturity. User should assume these risks before using this product.

### TIMING TO CROP

Table -FALLOWBED USE PRIOR TO TRANSPLANTING

PANTHER HERBICIDE RATES	ADJUVANT	GPA	TRANSPLANTING INTERVAL
4 oz/A	Required by burndown tank mix partner	Ground — 20 to 40	2 Months
<p><b>Application Method:</b> Apply with a burndown herbicide labeled for the control of emerged weeds. When using this product alone satisfactory control of emerged weeds will not be attained.</p>			

### USE RESTRICTIONS FOR PREEMERGENCE FALLOWBED WEED CONTROL PRIOR TO TRANSPLANTING

1. Always read and follow all label directions when using any pesticide alone or in tank mix combinations.
2. The top 4 inches of the bed, from a horizontal and vertical perspective, where the crop will be transplanted, must be removed prior to transplanting.
3. Use only healthy transplants. Do not use on direct seeded crops.



Beds are formed and this product is applied with a burndown herbicide.



A minimum of 2 months after application of this product, the tops of the beds are removed and the soil from the tops of the beds is placed in the area between the beds.



Crops are transplanted into beds.

4. [On flat beds (tomato only), the soil must be incorporated to a depth of at least 4 inches, twice, prior to transplanting. Failure to incorporate may result in stand reduction and/or crop injury.]
5. This use pattern makes no claim for in-season weed control after the beds have been disturbed.
6. Do not apply when weather conditions favor spray drift.

## DIRECTIONS FOR USE IN FALL AND SPRING BURNDOWN PROGRAMS IN COTTON AND SUGARCANE

[For Use in the States of Arizona, California and Hawaii Only]

### RESTRICTIONS AND LIMITATIONS

- Do not apply to frozen or snow covered soil.
- Do not perform any tillage operation after application or residual weed control will be reduced.
- This product can be used [at 1 to 2 oz/A] with labeled burndown herbicides to enhance the speed of burndown and increase weed spectrum.
- A minimum of 30 days must pass, and 1 inch of rainfall/irrigation must occur, between application of this product and planting of conventionally tilled cotton.
- A minimum of 14 days must pass, and 1 inch of rainfall/irrigation must occur, between application of this product and planting of no-till or strip-till cotton when a rate of this product at 1 oz/A is used and 21 days when a rate of this product at 1.5 to 2oz/A is used. The field must contain the stubble from the previous crop.
- This product can be applied as part of a burndown application to sugarcane until cane emergence.
- Observe all rotational intervals prior to planting as listed in the "ROTATIONAL RESTRICTIONS" table.
- Refer to most restrictive label for minimum interval between application and planting.

### FALL BURNDOWN PROGRAMS

This product [, at 2 to 4 oz/A,] can be used in the fall to provide residual weed control in fields that will be planted the following spring with cotton or sugarcane [(refer to Rotational Restrictions table for rates and rotational intervals prior to planting)]. Weeds controlled by residual activity are listed in Table **Broadleaf Weeds Controlled by Residual Activity of This Product** and Table - **Weeds Controlled by Residual Activity of This Product**. If weeds have emerged at the time of application, use this product in combination with a labeled burndown herbicide. [Application must be made no earlier than October 15 in Region 2 or November 15 in Region 1 or when soil temperature falls below 50°F at a 2 inch depth to maintain residual weed control into the spring (April 1 in Region 1 and May 1 in Region 2) or up until planting, whichever comes first.] [This product can be used in a fall burndown or fallow seedbed program outside of Regions 1 and 2.]

Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

### SPRING BURNDOWN PROGRAMS

This product [, at 1 to 2 oz/A,] can be used in combination with labeled preplant burndown herbicides to assist in the postemergence burndown of emerged weeds and provide residual weed control prior to crop emergence in fields that will be planted with cotton or sugarcane. Weeds controlled by residual activity are listed in Table **Broadleaf Weeds Controlled by Residual Activity of This Product**.

No-till planters that incorporate the soil during planting may result in decreased weed control in the row.

## DIRECTIONS FOR USE IN FALL AND SPRING BURNDOWN PROGRAMS IN RICE, SORGHUM, SUNFLOWERS, TOBACCO AND WHEAT (Preplant to Crop)

[For Use in the States of Arizona, California and Hawaii Only]

### RESTRICTIONS AND LIMITATIONS

- Do not apply to frozen or snow covered soil.
- Do not perform any tillage operation after application or residual weed control will be reduced.
- This product can be used [at 1 to 2 oz/A] with labeled burndown herbicides to enhance the speed of burndown and increase weed spectrum. A minimum of 30 days must pass, and 1 inch of rainfall/irrigation must occur, between application of this product and planting of rice, sorghum, sugarcane, sunflowers, tobacco or wheat. Refer to most restrictive label for minimum interval between application and planting.
- [Observe all rotational intervals prior to planting as listed in the "ROTATIONAL RESTRICTIONS" table.]

### FALL BURNDOWN PROGRAMS

This product can be used in combination with labeled burndown programs to control emerged weeds and provide residual weed control in fields that will be planted the following spring [(refer to Rotational Restrictions table for rates and rotational intervals prior to planting)]. [Application must be made no earlier than October 15 in Region 2 or November 15 in region 1 or when soil temperature falls below 50°F at a two inch depth to maintain residual weed control into the spring.]

Abnormally warm winters may reduce the length of weed control observed in the spring.

### SPRING BURNDOWN PROGRAMS

This product can be used in combination with labeled burndown programs to control emerged weeds and provide residual weed control prior to crop emergence. Weeds controlled by residual activity are listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product - Section A**. Crops that will be planted following application must be in compliance with the rotational interval listed in the "Rotational Restriction" table above.

No-till planters that incorporate the soil during planting may result in decreased weed control in the row.

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## DIRECTIONS FOR USE IN FALL BURNDOWN PROGRAMS IN FIELDS TO BE PLANTED TO BARLEY, FIELD PEA, FLAX, LENTIL, SAFFLOWER, SUNFLOWER AND SPRING WHEAT

### (Preplant to Crop)

[For Use in the States of Arizona, California and Hawaii Only]

#### RESTRICTIONS AND LIMITATIONS

- Do not apply to frozen or snow covered soil.
- Do not perform any tillage operation after application or residual weed control will be reduced.
- This product can be mixed with 2,4-D and/or glyphosate formulations labeled for burndown programs (preplant to crop) in accordance with the most restrictive label limitations and precautions. Labeled application rates must not be exceeded. Do not mix this product with any product containing a label prohibition against such mixing.
- [Observe all rotational intervals prior to planting as listed in the "ROTATIONAL RESTRICTIONS" table.]

#### FALL BURNDOWN PROGRAMS

This product can be used [at 2 to 4 oz/A] with labeled burndown herbicides to enhance the speed of burndown, increase weed spectrum and provide residual weed control of the weeds listed in Table - **Weeds Controlled by Fall and Spring Preplant Burndown Programs** until the following spring. Rotational intervals must be followed for crop to be planted in the spring following the fall application of this product. Refer to most restrictive label for minimum interval between application and planting.

## DIRECTIONS FOR USE IN FALLOW LAND

[For Use in the States of Arizona, California and Hawaii Only]

This product may be used as a preemergence fallow treatment. Weeds controlled by residual activity are listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product**. This product [, at 2 to 4 oz/A,] can be used in the fall to provide residual weed control in fallow fields [(refer to Rotational Restrictions table for rates and rotational intervals prior to planting)]. If weeds have emerged at the time of application, use this product in combination with a labeled fallow herbicide. [Application must be made no earlier than October 15 in Region 2 or November 15 in Region 1 or when soil temperature falls below 50°F at a 2 inch depth to maintain residual weed control into the spring (April 1 in Region 1 and May 1 in Region 2).] Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

This product [, at 1 to 4 oz/A,] can be used in spring in combination with labeled burndown herbicides to control emerged weeds and provide residual weed control.

## DIRECTIONS FOR USE IN ESTABLISHED ALFALFA

#### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 4 oz of this product per acre during a single application.
- Do not apply more than 8 oz of this product per acre during a single growing season.
- Do not make a sequential application of this product within 60 days of the first application of this product.
- Do not apply to alfalfa with greater than 6 inches of growth. Application will result in burning of treated leaves and stems. Users should understand and accept this risk before using this product on alfalfa.
- Do not apply within 25 days of harvest or grazing.
- Do not use on alfalfa grown for seed unless approved by a State authority to support a Special Local Need (SLN) under FIFRA section 24(c).
- Only apply with an adjuvant or tank mix with products formulated as an emulsifiable concentrate "EC" when targeting control of emerged weeds (crop burn and/or stunting should be expected and accepted if this product is used with an adjuvant, a tank mix partner formulated as an emulsifiable concentrate (EC) or a tank mix partner formulated with an adjuvant.)
- Application with paraquat can be used to burndown winter annuals prior to winter dormant period.
- Do not use on intended mixed alfalfa-grass stands.

#### TIMING TO ALFALFA

This product may be applied to established alfalfa with a maximum amount of growth of 6 inches or less for the preemergence control of the weeds listed in Table - **Weeds Controlled by Residual Activity of This Product**. Established alfalfa is defined as alfalfa planted in the fall or spring which has gone through a first cutting/mowing. Application to alfalfa with greater than 6 inches of growth may result in unacceptable crop injury.

For control of winter annual weeds: the best timing for preemergence control is in the fall immediately after the last cutting or sheepling-off has occurred.

For control of summer annual weeds: the best timing for preemergence control is in the spring prior to alfalfa growth and before 6 inches of growth.

#### TIMING TO WEEDS

##### Preemergence – Preemergence To Weeds

Apply this product before alfalfa growth exceeds 6 inches in height for the preemergence control of weeds listed in Table - **Weeds Controlled by Residual Activity of This Product**. Applications should be made as soon as possible after cutting and removing alfalfa to minimize injury to alfalfa growth.

**Postemergence Dodder Suppression**

Apply this product at 4 oz per acre with an adjuvant for postemergence suppression of dodder. Tank mixes with Pursuit® Herbicide or Raptor® Herbicide will increase control.

**DIRECTIONS FOR USE IN ESTABLISHED ASPARAGUS**

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 6 oz of this product per acre during a single application.
- Do not apply more than 6 oz of this product per acre during a single growing season.
- Apply only to dormant asparagus no less than 14 days before spears emerge. Application to non-dormant asparagus may result in unacceptable crop injury.

**TIMING TO ASPARAGUS – Dormant**

This product may be applied to dormant asparagus for preemergence control of the weeds listed in Table - **Weeds Controlled by Preemergence Application of This Product**. Application to non-dormant asparagus will result in unacceptable crop injury. Applications should be made no less than two weeks prior to spear emergence and must be sprinkler or rainfall incorporated with 0.5 to 0.75 inches of water or some scoring may result.

**TIMING TO ASPARAGUS - Post Harvest**

Apply this product after the final harvest of the season, but prior to fern emergence, for preemergence control of the weeds listed in Table - **Weeds Controlled by Preemergence Application of This Product**. Application after fern emergence will result in unacceptable crop injury. Apply no less than two weeks prior to fern emergence and must be sprinkler or rainfall incorporated with 0.5 to 0.75 inches of water. Add a burndown tank mix partner for the control of emerged weeds labeled for asparagus in accordance with the most restrictive labeled limitations and precautions.

**TIMING TO WEEDS**

**Burndown - Dormant Asparagus, Postemergence to Weeds**

This product may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where asparagus is dormant. For control of emerged weeds, tank mix this product with paraquat. Refer to paraquat label for recommended rate and application parameters. To ensure thorough coverage, use a minimum of 15 gals of spray solution per acre. Tank mixes of this product applied to assist in the control of emerged weeds must be applied with a non-ionic surfactant at 0.25% v/v. A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lbs/A or 28 to 32% nitrogen solution at 1 to 2 qts/A) may be added to increase herbicidal activity.

**Burndown - After Last Harvest of Season, Postemergence to Weeds**

Use this product for residual weed control and to assist in postemergence burndown for many annual and perennial weeds where asparagus harvest has been completed for the year. For control of emerged weeds, use a labeled tank mix partner with activity on the emerged weeds.

**Preemergence - Dormant Asparagus or After Last Harvest of Season, Preemergence to Weeds**

Apply this product to dormant asparagus for the preemergence control of weeds listed in Table - **Weeds Controlled by Preemergence Application of This Product**.

**DIRECTIONS FOR USE IN CELERY**

[For Use in the States of [California], Michigan and Wisconsin Only]

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 3 oz of this product per acre during a pre-transplant application.
- [In the state of California, use as pre-transplant application only.]
- Do not apply more than 3 oz of this product per acre during a post-transplant application.
- Do not apply more than 3 oz of this product per acre during a single growing season.
- Do not use with an adjuvant.
- Post transplant applications must be made between 3 to 7 days following transplanting.
- Do not apply as part of a tank mix.

**TIMING TO CELERY**

Apply this product at 3 oz/A prior to transplanting, or between 3 and 7 days following transplanting, for preemergence control of the weeds listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product**.

**TIMING TO WEEDS**

Use this product prior to weed emergence for residual control.

Read tank mix product label for rates and weeds controlled. Always read and follow label directions for all tank mix products before using. The most restrictive labeling of any tank mix product must be followed. This product, when applied according to

label use directions, will control the weeds listed in Table - Broadleaf Weeds Controlled by Residual Activity of This Product. This label makes no claims concerning control of other weed species.

**DIRECTIONS FOR USE IN COTTON**

[For Use in the States of Arizona, California and Hawaii Only]

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 2 oz of this product per acre during a single application.
- Do not apply more than 4 oz of this product per acre during a single growing season.
- Do not make a sequential application of this product within 30 days of the first application of this product.
- Do not apply within 60 days of harvest.

**ENVIRONMENTAL CONDITIONS AND BIOLOGICAL PERFORMANCE**

**Hooded, Shielded and Layby Application**

For best results, this product should be applied to actively growing weeds within the growth stages indicated in this label. Applying this product under conditions that do not promote active weed growth will reduce herbicide effectiveness. Do not apply this product when the crop or weeds are under stress due to drought, excessive water, extremes in temperature, disease or low humidity. Weeds under stress tend to become less susceptible to herbicidal action. This product is most effective when applied under sunny conditions at temperatures above 65°F.

This product is rainfast one hour after application. Applications should not be made if rain is expected within one hour of application or postemergence efficacy may be reduced. Rainfall within one hour of application will not adversely affect residual activity.

**HERBICIDE RATE**

**Hooded, Shielded and Layby Application**

For postemergence weed control, this product should be applied through a hooded or shielded sprayer or at layby, at 2 oz/A, in combinations with MSMA or at 1 to 2 oz/A in combination with glyphosate, to assist in the control of weeds listed in Table - **Carrier Volume and Spray Pressures**. Residual weed control can also be obtained through hooded, shielded and layby application of this product. Weeds that are controlled through residual activity of this product are listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product**. Weeds that are suppressed by residual activity of this product are listed in Table - **Weeds Suppressed by Residual Activity of This Product**.

**Table - Emerged Broadleaf Weeds Controlled by Hooded, Shielded and Layby Application of Tank Mixes of This Product With Glyphosate or MSMA in Cotton**

BROADLEAF WEED SPECIES		WEED HEIGHT (inches)
COMMON NAME	SCIENTIFIC NAME	2 oz/A
Bindweed, Field <sup>1</sup>	<i>Convolvulus arvensis</i>	4
Carpetweed	<i>Mollugo verticillata</i>	4
Chickweed, Common	<i>Stellaria media</i>	4
Cocklebur, Common	<i>Xanthium strumarium</i>	4
Florida Beggarweed	<i>Desmodium tortuosum</i>	2
Hemp Sesbania	<i>Sesbania exaltata</i>	6
Jimsonweed	<i>Datura stramonium</i>	4
Lambsquarters, Common	<i>Chenopodium album</i>	4
Morningglories		
Entireleaf	<i>Ipomoea hederacea</i> var. <i>integruscula</i>	4
Ivyleaf	<i>Ipomoea hederacea</i>	4
Pitted	<i>Ipomoea lacunose</i>	4
Red	<i>Ipomoea coccinea</i>	4
Tall	<i>Ipomoea purpurea</i>	2
Mustard, Wild	<i>Brassica kaber</i>	6
Nightshades		
Black	<i>Solanum nigrum</i>	4
Eastern Black	<i>Solanum ptycanthum</i>	4
Hairy	<i>Solanum sarrachoides</i>	4
Pigweeds		
Palmer Amaranth	<i>Amaranthus palmeri</i>	4
Redroot	<i>Amaranthus retroflexus</i>	4
Smooth	<i>Amaranthus hybridus</i>	4
Plantain, Broadleaf	<i>Plantago major</i>	6
Prickly Sida (Teaweed)	<i>Sida spinosa</i>	4
Purslanes, Common	<i>Portulaca oleracea</i>	2

Ragweeds		
Common	<i>Ambrosia artemisiifolia</i>	2
Giant	<i>Ambrosia trifida</i>	4
Rice Flatsedge	<i>Cyperus iria</i>	2
Sicklepod	<i>Senna obtusifolia</i>	4
Smartweeds		
Ladysthumb	<i>Polygonum persicaria</i>	4
Pale	<i>Polygonum lapathifolium</i>	4
Pennsylvania	<i>Polygonum pennsylvanicum</i>	4
Spotted Spurge	<i>Euphorbia maculata</i>	4
Velvetleaf	<i>Abutilon theophrasti</i>	4
Venice Mallow	<i>Hibiscus trionum</i>	2
Waterhemp		
Common	<i>Amaranthus rudis</i>	2
Tall	<i>Amaranthus tuberculatus</i>	2

<sup>1</sup> Tank mixes of this product will control the above ground portion of field bindweed. Repeated applications will be needed to control regrowth.

**CARRIER VOLUME AND SPRAY PRESSURE**

**Hooded, Shielded and Layby Application**

To ensure thorough coverage in hooded, shielded and layby applications, use 15 to 30 gals spray solution per treated acre. Use 20 to 30 gals per treated acre under heavy weed pressure. Nozzle selection should meet manufacturer's gallonage and pressure specifications for application method being used. Do not use "Flood Jet" nozzles, as they tend to increase the chance of crop injury.

**ADDITIVES**

**Hooded, Shielded and Layby Application**

Weed control from hooded, shielded or layby application of this product in cotton requires the addition of an agronomically approved non-ionic surfactant to the spray mixture. Non-ionic surfactant must contain at least 80% active ingredient. Mixing compatibility qualities should be verified by a jar test. The use of crop oil concentrates, methylated seed oils, organo-silicant surfactants or products containing these ingredients may result in severe crop injury and should not be used.

**APPLICATION EQUIPMENT**

Apply tank mixes of this product, with ground equipment using standard commercial sprayers equipped with nozzles designed to deliver the desired spray pressure and spray volume. Application equipment should be clean and in good repair. Nozzles should meet manufacturer's specifications for spray pattern and placement on spray boom and should be checked frequently for accuracy.

**TIMING TO COTTON**

**Hooded and Shielded Application**

Tank mixes of this product may be applied with a hooded or shielded sprayer after cotton has reached a minimum of 6 inches in height. All nozzles must be under the hood or behind the shield to ensure no spray solution comes in contact with the cotton. **Care must be taken to ensure the spray solution or drift does not come in contact with the cotton or severe crop injury can occur.**

**Layby Application**

Layby application of tank mixes of this product may be made once cotton has reached a minimum of 16 inches in height. Cotton that is smaller than 16 inches in height may be injured by applications of this product. Application of this product must be directed to the lower 2 inches of the cotton stem to avoid crop injury.

**TIMING TO WEEDS**

Tank mix applications of this product must be made to weeds within the height range given in Table - **Carrier Volume and Spray Pressures**.

**TANK MIXES**

This product must be tank mixed with one of the herbicides listed in Table - **Tank Mixes with This Product for Hooded, Shielded and/or Layby Use in Cotton** for postemergence control of the weeds listed in Table - **Carrier Volume and Spray Pressures**.

Table - Tank Mixes for Hooded, Shielded and/or Layby Use in Cotton

TANK MIX PARTNER	TARGET WEEDS	HOODED AND SHIELDED	LAYBY
Glyphosate	Perennial Grasses and Broadleaves	X	X <sup>1</sup>
MSMA	Annual Grasses Yellow Nutsedge	X	X

<sup>1</sup>For use only in cotton with the Roundup Ready gene.

### DIRECTIONS FOR USE IN CUCURBIT VEGETABLES (ROW MIDDLES)

**Cucurbit Vegetables (Crop Group 9) including:** chayote (fruit); Chinese Waxgourd (Chinese preserving melon); citron melon; cucumber; gherkin; gourd, edible (includes hyotan, cucuzza, hechima, Chinese okra); *Momordica* spp. (includes balsam apple, balsam pear, bittermelon, Chinese cucumber); muskmelon (includes cantaloupe); pumpkin; squash, summer; squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon

#### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 4 oz of this product per acre during a single application.
- Do not apply more than 8 oz of this product per acre during a single growing season.
- Do not use with an adjuvant.
- Plants should be grown on raised plastic mulched beds that are higher than the treated row middle. **Arizona, California and Hawaii only:** For fallow bed application on transplanted peppers and tomato beds see **DIRECTIONS FOR USE FALLOWBED USE ON TRANSPLANTED MELON, PEPPER AND TOMATO BEDS** use instructions.
- Spray must be directed to the row middle, away from the crop bed and with minimal contact with plastic, including the sides of the bed. If top of mulch beds (where plants are to be transplanted) is contacted, severe injury can occur due to foliage contact with treated plastic. In this scenario, a rainfall event of 1/2 inch (natural or irrigation) must occur prior to transplanting to reduce residues of this product.
- Drift of treated soil particles onto plants may cause contact injury.
- Irrigate treated field after application and prior to transplanting with minimum of 1/4 inch of water if rainfall does not occur between application and transplanting.
- All applications must be made with hooded or shielded equipment.

#### TIMING TO CUCURBIT VEGETABLES

Apply this product at 4 oz per acre as a hooded or shielded application to row middles up to 14 days prior to transplanting or seeding for preemergence control of the weeds listed in Table - **Weeds Controlled by Residual Activity of This Product**, as well as to assist in the postemergence control of emerged weeds. A second application of this product at 4 oz per acre may be applied up to 21 days after transplanting or emergence if needed. Do not apply during or after bloom.

#### TIMING TO WEEDS

This product may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds in row middles. A registered preemergence grass herbicide may be added for control of additional grassy weeds. For assisting in the control of emerged weeds, tank mix this product with paraquat, Aim™ or other registered burndown herbicide. Do not tank mix with glyphosate after transplanting. Refer to tank mix partner's label for recommended rate and application parameters.

**Read tank mix product label for rate and weeds controlled. Always read and follow label directions for all tank mix products before using. The most restrictive labeling of any tank mix product must be followed. This product, when applied according to label use directions, will control the weeds listed in Table - Weeds Controlled by Residual Activity of This Product. This label makes no claims concerning control of other weed species.**

### DIRECTIONS FOR USE IN DRY BEANS

Dried cultivars of bean (*Lupinus*); bean (*Phaseolus*) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (*Vigna*) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (dry); chickpea; guar; lablab bean and lentil

#### WEED SUPPRESSION [Weed Suppression section not to be shown on production label]

#### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 oz of this product per acre during a single application.
- Do not apply more than 2 oz of this product per acre during a single growing season.

**Arizona, California, Colorado, Hawaii, Idaho, Nebraska, Oregon and Washington only:** For weed suppression in dry beans see **DIRECTIONS FOR USE FOR WEED SUPPRESSION IN DRY BEANS** use instructions.

Arizona, California, Hawaii, Idaho, Oregon and Washington only: For weed suppression in garbanzo beans see **DIRECTIONS FOR USE FOR CHICKPEA (GARBANZO BEAN)** use instructions.

Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near crop emergence, may result in dry bean injury in fields treated with this product. On occasion this has resulted in a delay in maturity. User should assume these risks before using this product.

**TIMING TO DRY BEAN**

This product may be applied to dry beans within 2 days after planting for the preemergence suppression of the weeds listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product** or Table - **Weeds Suppressed by Residual Activity of This Product at 1.5 oz/A**. This product should be tank mixed with other labeled herbicides for broad spectrum weed control.

**TIMING TO WEEDS**

This product may be applied to dry beans prior to planting or preemergence (after planting). Preemergence application of this product must be made within 2 days after planting and prior to dry bean emergence. Application after the dry beans have begun to crack, or are emerged, will result in severe crop injury. To avoid severe crop injury, do not apply to dry beans after beans begin to crack or have emerged. Preplant incorporation (PPI) applications may result in reduced weed control.

**ADDITIONAL RESIDUAL GRASS CONTROL**

This product can be tank mixed with pendimethalin for additional grass control.

**HARVEST AID**

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 3 oz of this product per acre during a single application.
- Do not apply more than 3 oz of this product per acre during a single growing season.
- Do not harvest within 5 days of application.

Desiccation from this product requires the addition of an agronomically approved adjuvant to the spray mixture. A methylated seed oil which contains at least 15% emulsifiers and 80% oil at 2% v/v should be used. A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lbs/A or a 28 to 32% nitrogen solution at 1 to 2 qts/A) may be added to the spray mixture along with either a crop oil concentrate or methylated seed oil to enhance desiccation. The addition of a nitrogen source does not replace the need for a crop oil concentrate or a methylated seed oil. Tank mixing this product with glyphosate or paraquat will increase control of emerged weeds and aid in harvest. Add a burndown tank mix partner for the control of emerged weeds labeled for dry bean in accordance with the most restrictive labeled limitations and precautions.

**TIMING TO DRY BEANS**

Apply when crop is mature and at least 80% of the pods are yellowing and mostly ripe with no more than 40% (bush type beans) or 30% (vine type beans) of the leaves still green in color. Dry beans can be harvested 5 days after application. To ensure thorough coverage use 15 to 30 gallons spray solution per acre. Nozzle selection should meet manufacturer's gallonage and pressure specifications for postemergence application.

**DIRECTIONS FOR USE FOR WEED SUPPRESSION IN DRY BEANS**

[For Use Only in Arizona, California, Colorado, Hawaii, Idaho, Nebraska, Oregon and Washington]

Dried cultivars of bean (Lupinus); bean (Phaseolus) (includes field bean, kidney bean, lima bean(dry), navy bean, pinto bean, tepary bean); bean (Vigna) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broadbean (dry); chickpea; guar; lablab bean and lentil

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 1.5 oz of this product per acre during a single application.
- Do not apply more than 1.5 oz of this product per acre during a single growing season.

Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near crop emergence, may result in dry bean injury in fields treated with this product. On occasion this has resulted in a delay in maturity. User should assume these risks before using this product.

**TIMING TO DRY BEAN**

This product may be applied to dry beans within 2 days after planting for the preemergence suppression of the weeds listed in Table A, **Weeds Suppressed by Residual Activity of This Product at 1.5 oz/A**. Tank mix this product with other labeled herbicides for broad spectrum weed control.

**TIMING TO WEEDS**

This product may be applied to dry beans prior to planting or preemergence (after planting). Preemergence application of this product must be made within 2 days after planting and prior to dry bean emergence. To avoid severe crop injury, do not apply to dry beans after

beans begin to crack or have emerged.

Preplant incorporation (PPI) applications may result in reduced weed control.

**ADDITIONAL RESIDUAL GRASS CONTROL**

This product can be tank mixed with pendimethalin for additional grass control.

**Table - Broadleaf Weeds Controlled by Residual Activity of This Product at 1.5 oz/A**

BROADLEAF WEED SPECIES		ORGANIC MATTER	PANTHER HERBICIDE RATE
SECTION A			
COMMON NAME	SCIENTIFIC NAME		
Lambsquarters, Common	<i>Chenopodium album</i>	Up to 5%	1.5 oz/A
Mustard, Wild	<i>Brassica kaber</i>		
Nightshades			
Black	<i>Solanum nigrum</i>		
Eastern Black	<i>Solanum ptycanthum</i>		
Hairy	<i>Solanum sarrachoides</i>		
Palmer Amaranth	<i>Amaranthus palmeri</i>		
Pigweeds			
Redroot	<i>Amaranthus retroflexus</i>		
Smooth	<i>Amaranthus hybridus</i>		
Spiny Amaranth	<i>Amaranthus spinosus</i>		
Tumble	<i>Amaranthus albus</i>		
Prickly Lettuce	<i>Lactuca serriola</i>		
Prickly Sida (Teaweed)			
Radish, Wild	<i>Tribulus terrestris</i>		

**DIRECTIONS FOR USE FOR CHICKPEA (GARBANZO BEAN)**  
 [For Use Only in Arizona, California, Hawaii, Idaho, Oregon and Washington]

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 2.0 oz of this product per acre during a single application.
- Do not apply more than 2.0 oz of this product per acre during a single growing season.

Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near crop emergence, may result in dry bean injury in fields treated with this product. On occasion this has resulted in a delay in maturity. User should assume these risks before using this product.

**TIMING TO CHICKPEA (GARBANZO BEAN)**

This product may be applied to dry beans within 2 days after planting for the preemergence suppression of the weeds listed in Table-Weeds Suppressed by Residual Activity of This Product. Tank mix this product with other labeled herbicides for broad spectrum weed control.

**TIMING TO WEEDS**

This product may be applied to garbanzo beans prior to planting or preemergence (after planting). Preemergence application of Valor Herbicide must be made within 2 days after planting and prior to garbanzo bean emergence. Application after the garbanzo beans have begun to crack, or are emerged, will result in severe crop injury. Application should not be made when garbanzo beans have begun to crack.

Preplant incorporation (PPI) applications may result in reduced weed control.

**ADDITIONAL RESIDUAL GRASS CONTROL**

This product can be tank mixed with pendimethalin for additional grass control.

### DIRECTIONS FOR USE IN FIELD CORN

[For Use in the States of Arizona, California and Hawaii Only]

#### RESTRICTIONS AND LIMITATIONS

- Use only on no-till or minimum tillage fields where last years crop residue has not been incorporated into the soil.
- Corn must be planted between 14 and 30 days after application unless the application is made as part of a Fall burndown program.
- Corn can be planted 7 days after an application of 2 oz/A if a minimum of 25% of the soil surface is covered with the residue of the preceding crop and a minimum of 1/4 inch of rainfall has occurred between application and planting.
- Do not apply more than [2 oz] 3 oz of this product per acre during a single growing season.
- Do not irrigate between emergence and 2-leaf corn
- Do not use on popcorn, sweet corn or corn grown for seed.

#### TIMING TO FIELD CORN

- Apply this product, at 2 to 3 oz/A, between 7 and 30 days prior to planting field corn, for the preemergence control of the weeds listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product**.
- Apply this product at 2 oz/A between 7 and 30 days prior to planting field corn if a minimum of 25% of the soil surface is covered with the residue of the preceding crop and a minimum of 1/4 inch of rainfall has occurred between application and planting.
- Apply this product at 3 oz/A between 14 and 30 days prior to planting field corn.

#### Burndown Use Directions - For Preplant Applications in Field Corn

This product, applied as part of a burndown program, may be used for residual weed control, as well as to assist in postemergence burndown of many weeds where field corn will be planted directly into the residue of the previous year. See Directions for Use in Fall and Spring Preplant Burndown and Fallow Seedbed Programs in Field Corn, Peanut and Soybean for rates and timing of applications. For control of emerged weeds, this product must be applied with an appropriate burndown tank mix partner listed in Table - **Tank Mix Partners for Burndown and/or Residual Control of Weeds in Field Corn**. To ensure thorough coverage, use a minimum of 15 gallons of spray solution per acre. Refer to tank mix partner's label for recommended application pressure and recommended adjuvant systems.

#### INCREASING SPEED OF GLYPHOSATE BURNDOWN ACTIVITY

This product, at 1 oz/A, may be tank mixed with glyphosate (Roundup®) to increase the speed of burndown activity compared to glyphosate applied alone. Residual weed control will not be provided at rates lower than 2 oz/A; however, suppression of the weeds in Table - **Weeds Suppressed by Residual Activity of This Product** may occur at rates of this product as low as 1 oz/A. Applications of this product at 1 oz/A must be made a minimum of 14 days prior to planting field corn.

#### TANK MIXES

This product may be tank mixed with the herbicides listed in Table - **Tank Mix Partners for Burndown and/or Residual Control of Weeds in Field Corn** for pre-plant burndown applications. Refer to tank mix partner's label for adjuvant recommendations.

Table - Tank Mix Partners for Burndown and/or Residual Control of Weeds in Field Corn

TANK MIX PARTNERS <sup>1</sup>	
2,4-D LVE	Metribuzin
Atrazine	Paraquat
Basis®	Python®
Dicamba	Resolve®
Express®	Simazine
Glyphosate	Weedmaster®
Hornet®	

<sup>1</sup>Refer to tank mix product labels for specific recommendations.

#### TANK MIX RESTRICTIONS

Tank mixes with flufenacet (Axiom or Domain), metolachlor or s-metolachlor (Dual Magnum or Dual II Magnum), dimethenamid or dimethenamid-p (Frontier or Outlook), alachlor (Lasso), or acetochlor (Surpass or Harness) may result in injury to field corn when application is followed by prolonged periods of cool wet weather and should not be used with this product.

## DIRECTIONS FOR USE IN FRUITING VEGETABLES (INCLUDING OKRA) ROW MIDDLES

Eggplant, Groundcherry (*Physalis* spp.), Okra, Pepino; Peppers (including Bell Pepper, Chili Pepper, Cooking Pepper, Pimento, Sweet Pepper), Tomatillo and Tomato

### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 4 oz of this product per acre during a single application.
- Do not apply more than 8 oz of this product per acre during a single growing season.
- Plants should be grown on raised or plastic mulched beds that are higher than the treated row middle.
- **Arizona, California and Hawaii only:** For fallow bed application on transplanted peppers and tomato beds see **DIRECTIONS FOR USE FALLOWBED USE ON TRANSPLATED MELON, PEPPER AND TOMATO BEDS** use instructions.
- Spray must be directed to the row middle, away from the crop bed and with minimal contact with plastic, including the sides of the bed. If top of mulch beds (where plants are to be transplanted) is contacted, severe injury can occur due to foliage contact with treated plastic. In this scenario, a rainfall event of ½ inch (natural or irrigation) must occur prior to transplanting to reduce residues of this product.
- Drift of treated soil particles onto plants may cause contact injury.
- Irrigate treated field after application and prior to transplanting with minimum of 1/4 inch of water if rainfall does not occur between application and transplanting.
- All applications must be made with hooded or shielded equipment.

### TIMING TO FRUITING VEGETABLES

Apply this product at 4 oz per acre as a hooded or shielded application to row middles up to 14 days prior to transplanting or seeding for preemergence control of the weeds listed in Table - **Weeds Controlled by Residual Activity of This Product**, as well as to assist in the postemergence control of emerged weeds. A second application of this product at 4 oz per acre may be applied up to 21 days after transplanting or emergence if needed. Do not apply during or after bloom.

### TIMING TO WEEDS

This product may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds in row middles. A registered preemergence grass herbicide may be added for control of additional grassy weeds. For assisting in the control of emerged weeds, tank mix this product with paraquat, Aim™ or other registered burndown herbicide. Do not tank mix with glyphosate after transplanting or crop emergence. Refer to tank mix partner's label for recommended rate and application parameters.

## DIRECTIONS FOR USE IN GARLIC

### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 6 oz of this product per acre during a single application.
- Do not apply more than 6 oz of this product per acre during a single growing season.

### TIMING TO GARLIC

This product may be applied, at 6 oz/A, to garlic prior to garlic emergence. Application should be made within 3 days after planting garlic.

### TIMING TO WEEDS

#### Preemergence - Preemergence To Weeds

Apply this product to weed free garlic for preemergence control of the weeds listed in Table - **Weeds Controlled by Preemergence Application of This Product**.

## DIRECTIONS FOR USE IN HOPS

[Not For Use in California or New York]

### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 6 oz of this product per acre during a single application.
- Do not apply more than 6 oz of this product per acre during a single growing season.
- Do not allow spray to contact green stem (Unless used for sucker control), foliage, flowers or cones or unacceptable injury may occur.
- Do not apply within 30 days of harvest.
- Do not use with an adjuvant.

This product can be used in hops for preemergence weed control as well as sucker control.

### TIMING TO HOPS FOR SUCKER CONTROL

Apply this product at 6 oz/A as a directed application after hops have reached a minimum of 6 feet in height for sucker control. Application should be directed to the lower 2 feet of the hops.

**TIMING TO HOPS FOR PREEMERGENCE WEED CONTROL**

Apply this product at 6 oz/A as a 1 to 1.5 foot band to each side of the hop row, to dormant hops January thru March to ensure time for rain incorporation and activation. If weeds are emerged at the time of application, tank mix this product with a labeled burndown herbicide such as paraquat or glyphosate to assist with control of emerged weeds. Do not mow or rake over treated areas, as dust created by mowing may drift onto sensitive crops or vegetation resulting in injury.

**TIMING TO WEEDS**

Applications of this product must be made prior to weed emergence for control of weeds listed in Table - **Weeds Controlled by Preemergence Application of This Product.**

**Read tank mix product label for rates and weeds controlled. Always read and follow label directions for all tank mix products before using. The most restrictive labeling of any tank mix product must be followed. This product, when applied according to label use directions, will control the weeds listed in Table - Weeds Controlled by Preemergence Application of This Product. This label makes no claims concerning control of other weed species.**

**DIRECTIONS FOR USE IN MINT  
(Peppermint and Spearmint)**

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 4 oz of this product per acre during a single application.
- Do not apply more than 8 oz of this product per acre during a single growing season.
- Do not make a sequential application of this product within 60 days of the first application of this product.
- Apply only to dormant mint. Application to non-dormant mint may result in unacceptable crop injury.
- Do not apply within 80 days of harvest.
- Do not apply to row or baby mint, use only on established meadow mint.
- Do not apply to mint that has been weakened by diseases, insects (example mint root borer), nematodes, drought, soil salts, high soil pH, previous pesticides, winter injury or double cutting, as severe injury may occur. Apply only to healthy vigorous mint with undamaged rhizomes.
- Do not apply before November 25 or after March 1.
- Do not apply a Fall application if roots and rhizomes are weak, thin or damaged.
- Do not apply to stands established longer than 3 years.
- Do not apply this product on mint in Southern Union County (south of Ladd Canyon) or Baker County in Oregon.

**Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near mint emergence, may result in mint injury in fields treated with this product. User should assume these risks before using this product.**

Tank mixes with labeled rates of paraquat are recommended to control emerged weeds and increase crop safety.

**TIMING TO MINT**

As a spray, this product may be applied only to established, dormant mint for preemergence control of the weeds listed in Table - **Weeds Controlled by Residual Activity of This Product**, as well as to assist in the postemergence control of emerged weeds. Application to non-dormant mint or to baby (row) mint (time from planting of mint roots through the first cutting), may result in unacceptable crop injury. As a bulk fertilizer application, this product may be applied at least 80 days prior to harvest. Leaves must be dry at the time of applications or severe injury may occur.

**TIMING TO WEEDS**

**Burndown - Dormant Mint, Postemergence To Weeds**

This product may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where established mint is dormant. For control of emerged weeds, tank mix this product with paraquat. Refer to paraquat label for recommended rate and application parameters. To ensure thorough coverage, use a minimum of 15 gals of spray solution per acre. Tank mixes of this product applied to assist in the control of emerged weeds must be applied with a non-ionic surfactant at 0.25% v/v. A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lbs/A or 28 to 32% nitrogen solution at 1 to 2 qts/A) maybe added to increase herbicidal activity.

**Preemergence - Dormant Mint, Preemergence To Weeds**

Apply this product to dormant mint for the preemergence control of weeds listed in Table - **Weeds Controlled by Residual Activity of This Product.** Fall applications of this product, followed by a sequential application in the Spring, have resulted in better Summer annual weed control than a single Fall or single Spring application.

Fall application is most effective for Fall germinating weeds such as groundsel. Fields plowed or harrowed after an application of this product will result in less effective preemergence activity. In furrow irrigated fields, corrugating that is done after an application of this product will expose untreated soil and break the herbicide barrier resulting in poor weed control.

Table - Weeds Controlled by Residual Activity of This Product

BROADLEAF WEED SPECIES	COMMON NAME	SCIENTIFIC NAME	ORGANIC MATTER	SOIL TYPE	TUSCANY HERBICIDE RATE
	Bristly Starbur	<i>Acanthospermum hispidum</i>	Up to 5%	All Soil Types	4 oz/A
	Carpetweed	<i>Mollugo verticillata</i>			
	Chickweeds				
	Common	<i>Stellaria media</i>			
	Mouseear	<i>Cerastium vulgatum</i>			
	Coffee Senna	<i>Cassia occidentalis</i>			
	Copperleaf, Hophornbeam	<i>Acalypha ostryifolia</i>			
	Dandelion	<i>Taraxacum officinale</i>			
	Dodder (suppression only) <sup>1</sup>	<i>Cuscuta</i> spp.			
	Eclipta	<i>Eclipta prostrata</i>			
	Eveningprimrose, Cutleaf	<i>Oenothera laciniata</i>			
	False Chamomile <sup>2</sup>	<i>Tripleurospermum maritima</i>			
	Fiddleneck, Coast	<i>Amsinckia menziesii</i>			
	Field Pennycress <sup>2</sup>	<i>Thlaspi arvense</i>			
	Fleabane, Hairy	<i>Conyza bonariensis</i>			
	Flixweed	<i>Descurainia spophia</i>			
	Florida Beggarweed	<i>Desmodium tortuosum</i>			
	Florida Pusley	<i>Richardia scabra</i>			
	Golden Crownbeard	<i>Verbesina encelioides</i>			
	Groundsel, Common	<i>Senecio vulgaris</i>			
	Hairy Indigo	<i>Indigofera hirsute</i>			
	Hemp Sesbania	<i>Sesbania exaltata</i>			
	Henbit	<i>Lamium amplexicaule</i>			
	Jimsonweed	<i>Datura stramonium</i>			
	Kochia	<i>Kochia scoparia</i>			
	Lambsquarters, Common	<i>Chenopodium album</i>			
	Little Mallow	<i>Malva parviflora</i>			
	London Rocket	<i>Sisymbrium irio</i>			
	Marestail/Horseweed	<i>Conyza canadensis</i>			
	Mayweed/False Chamomile	<i>Matricaria maritima</i>			
	Morningglories				
	Entireleaf	<i>Ipomoea hederacea</i> var. <i>integriuscula</i>			
	Ivyleaf	<i>Ipomoea hederacea</i>			
	Red/Scarlet	<i>Ipomoea coccinea</i>			
	Smallflower	<i>Jacquemontia tamnifolia</i>			
	Tall	<i>Ipomoea purpurea</i>			
	Mustard				
	Tansy	<i>Descurainia pinnata</i>			
	Tumble	<i>Sisymbrium altissimum</i>			
	Wild	<i>Brassica kaber</i>			
	Nettle, Burning	<i>Urtica urens</i>			
	Nightshades				
	Black	<i>Solanum nigrum</i>			
	Eastern Black	<i>Solanum ptycanthum</i>			
	Hairy	<i>Solanum sarrachoides</i>			
	Pigweeds				
	Palmer Amaranth	<i>Amaranthus palmeri</i>			
	Redroot	<i>Amaranthus retroflexus</i>			
	Smooth	<i>Amaranthus hybridus</i>			
	Spiny Amaranth	<i>Amaranthus spinosus</i>			
	Tumble	<i>Amaranthus albus</i>			
	Prickly Lettuce				
	(China Lettuce)	<i>Lactuca serriola</i>			
	Prickly Sida (Teaweed)	<i>Sida spinosa</i>			

Puncturevine	<i>Tribulus terrestris</i>		
Purslane,			
Common	<i>Portulaca oleracea</i>		
Horse	<i>Trianthema portulacastrum</i>		
Radish, Wild	<i>Raphanus raphanistrum</i>		
Ragweed, Common	<i>Ambrosia artemisiifolia</i>		
Redmaids	<i>Calandrinia ciliata</i> var. <i>menziesii</i>		
Russian Thistle	<i>Salsola iberica</i>		
Shepherd's-purse	<i>Capsella bursa-pastoris</i>		
Smartweeds			
Ladysthumb	<i>Polygonum persicaria</i>		
Pennsylvania	<i>Polygonum pensylvanicum</i>		
Smellmelon	<i>Cucumis melo</i>		
Sowthistle, Prickly <sup>2</sup>	<i>Sonchus asper</i>		
Spotted Spurge	<i>Euphorbia maculata</i>		
Spurred Anoda	<i>Anoda cristata</i>		
Tropic Croton	<i>Croton glandulosus</i>		
Velvetleaf	<i>Abutilon theophrasti</i>		
Venice Mallow	<i>Hibiscus trionum</i>		
Waterhemp			
Common	<i>Amaranthus rudis</i>		
Tall	<i>Amaranthus tuberculatus</i>		
White Cockle	<i>Silene latifolia</i>		
Wild Poinsettia	<i>Euphorbia heterophylla</i>		
Wormwood, Biennial	<i>Artemisia biennis</i>		
Yellow Rocket	<i>Barbarea vulgaris</i>		
<b>GRASS WEED SPECIES</b>			
Barnyardgrass	<i>Echinochloa crus-galli</i>		
Bluegrass, Annual	<i>Poa annua</i>		
Crabgrass, Large	<i>Digitaria sanguinalis</i>		
Foxtail, Giant	<i>Setaria faberi</i>		
Goosegrass	<i>Eleusine indica</i>		
Lovegrass, California	<i>Eragrostis diffusa</i>		
Panicums			
Fall	<i>Panicum dichotomiflorum</i>		
Texas	<i>Panicum texanum</i>		
Ryegrass, Italian	<i>Lolium multiflorum</i>		
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>		

<sup>1</sup>This product at 4 oz/A will provide postemergence dodder suppression when applied in combination with Pursuit Herbicide or Raptor Herbicide at labeled rates. The use of Pursuit Herbicide and Raptor Herbicide require the use of a NIS, which will result in burn and stunting of alfalfa. Growers should expect and accept this prior to using this tank mix.

<sup>2</sup> Not for use in California.

**DIRECTIONS FOR USE IN ONION (DRY BULB)**

[For Use in the States of Michigan, New York and North Dakota Only]

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 2 oz of this product per acre during a single application.
- Do not apply more than 3 oz of this product per acre during a single growing season.
- Do not make sequential application within 14 days of the first application.
- Do not apply more than 1 oz of this product per season on soils that contain greater than 90% sand plus gravel.
- Do not apply as part of a tank mix, other than with Prowl® H<sub>2</sub>O, or unacceptable injury may result. Other formulations of pendimethalin should not be tank mixed with this product for use in onions.

- Do not apply with any type of adjuvant.
- Do not apply within 45 days of harvest.

**Use of this product may result in necrotic spotting of onion leaves that come in contact with the spray. User should assume this potential crop response before using this product.**

**[Microrate Application]**

Sequential applications of this product may be applied to onions (dry bulb), between the 2-leaf and 6-leaf stage, at rates of 0.5 to 1 oz/A, on a 7 day interval.]

**TIMING TO ONIONS (Dry Bulb)**

Apply this product to transplanted onions (dry bulb) between the 2-leaf and 6-leaf stage and on direct seed onions (dry bulb) between the 3-leaf and 6-leaf stage.

**TIMING TO WEEDS**

**Preemergence - Emerged Onions (dry bulb), Preemergence To Weeds**

Apply this product to weed free onions (dry bulb) for preemergence control of the weeds listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product, Section A.**

**CHEMIGATION**

This product may be applied through sprinkler irrigation systems in onions (dry bulb). Follow all label instructions for these crops regarding rates, timing of application, special instructions and precautions.

Apply this product only through center pivot systems. End guns must be turned off due to uneven application. Do not apply this product through any other type of irrigation system.

Crop injury, lack of efficacy or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

The system must be properly calibrated (with water only) to ensure that the amount of Panther Herbicide applied corresponds to the recommended rate.

Apply this product in 1/2 to 3/4 inches of water during the first sprinkler set. Allow time for all lines to flush the herbicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining herbicide, a dye indicator may be injected into the lines to mark the end of the application period. Once chemigation has begun, the run must be completed to ensure no product is left in the system. If you have any questions about calibration, you should contact your State Extension Service Specialist, equipment manufacturers or other experts.

**Special Precautions for Chemigation**

1. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
2. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
3. The system must be free of leaks and clogged nozzles.
4. The pesticide must be supplied continuously for the duration of the aqueous application. An uneven application may cause injury to the crop or poor weed control.
5. Agitation must be maintained in the nurse tank.
6. The sprinkler chemigation system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
7. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
8. The pesticide injection pipeline must contain a functional, normally closed, solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in the case where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
10. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
11. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with the pesticides and capable of being fitted with a system interlock.
12. Do not apply when wind speed favors drift beyond the area intended for treatment.

**Chemigation Systems Connected to Public Water Systems**

1. Public water system means a system for the provision to the public of piped water for human consumption, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to the public water system must contain a functional, reduced pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. All chemigation systems connected to the public water system must also follow restrictions listed in the preceding section titled "**Special Precautions for Chemigation**".

## DIRECTIONS FOR USE IN PEANUT

### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 3 oz of this product per acre during a single growing season.
- Do not apply more than 2 oz/A in the states of North Carolina, Oklahoma or Virginia where climatic conditions may result in unacceptable injury to peanuts [or under conditions specified below under **PREEMERGENCE APPLICATION IN PEANUT**].
- Do not irrigate when peanuts are cracking.

**Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near peanut emergence, may result in peanut injury in fields treated with this product. On occasion this has resulted in a delay in maturity or even a slight decrease in yield.**

### WIND MANAGEMENT

In areas where shallow cultivation is used between rows to reduce wind-borne sand damage to peanuts, weed control from this product may be reduced.

### TIMING TO PEANUTS

**This product may be applied to peanuts prior to planting or preemergence (after planting). Preemergence applications of this product must be made within 2 days after planting and prior to peanut emergence. Application after the peanuts have begun to crack, or are emerged, will result in severe crop injury. Application should not be made when peanuts have begun to crack.** Select rate of this product from Table - **Broadleaf Weeds Controlled by Residual Activity of This Product**, according to anticipated weed spectrum.

### TIMING TO WEEDS

#### Burndown - Preemergence to Peanuts, Postemergence to Weeds

This product, applied as part of a burndown program, may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where peanuts will be planted directly into a stale seedbed, cover crop or in previous crop residues. Apply this product before planting, during planting or after planting, but before the crop emerges. For control of emerged weeds, tank mix this product with glyphosate. Refer to glyphosate label for recommended rate and application pressure. To ensure thorough coverage, use a minimum of 15 gals of spray solution per acre. Tank mixes of this product applied to assist in the control of emerged weeds must be applied with an adjuvant, such as a non-ionic surfactant at 0.25% v/v or a crop oil concentrate or a methylated seed oil at 1 to 2 pt/A. A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lbs/A or 28 to 32% nitrogen solution at 1 to 2 qts/A) may be added to increase herbicidal activity. Preemergence (conventional tillage) applications of this product must be applied prior to weed emergence.

#### PREEMERGENCE APPLICATION IN PEANUT (North Carolina, Oklahoma and Virginia Only)

This product, at 3 oz. per acre, can be applied within 2 days of planting to control common ragweed, tropic croton and entireleaf, ivyleaf and tall/scarlet morningglories.

Cool temperatures near emergence (2 consecutive nighttime lows in the 50's F) in combination with heavy rainfall may result in severe crop injury. This product, at 3 oz./A, should only be used in these states when other alternatives are not available for adequate control of the weeds listed above and the user acknowledges the risks associated with this use rate under the adverse environmental conditions listed above.

#### ADDITIONAL RESIDUAL GRASS CONTROL: SEQUENTIAL

This product may be applied sequentially following a preplant incorporated application of trifluralin (states of New Mexico, Oklahoma and Texas only), SONALAN<sup>®</sup>, DUAL<sup>®</sup> (metolachlor), pendimethalin or FRONTIER<sup>®</sup>.

#### ADDITIONAL RESIDUAL GRASS CONTROL: TANK MIXED

This product can be tank mixed with alachlor, metolachlor or FRONTIER for additional grass and broadleaf weed control. This product can also be tank mixed with pendimethalin or SONALAN in states where they are labeled, provided overhead irrigation guidelines on the pendimethalin and/or SONALAN labels are followed.

## DIRECTIONS FOR USE IN POTATO

[Arizona, California, Colorado, Delaware, Florida, Hawaii, Idaho, Maryland, Minnesota, Montana, Nebraska, Nevada, New Jersey, New Mexico, North Carolina, North Dakota, Oregon, South Dakota, Texas, Utah, Virginia, Washington, Washington DC and Wyoming only.]

### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 1.5 oz of this product per acre during a single application.
- Do not apply more than 1.5 oz of this product per acre during a single growing season.
- Do not apply to Rill (Furrow) irrigated potatoes.

**Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near potato emergence,**

may result in potato injury in fields treated with this product. On occasion this has resulted in a delay in maturity. User should assume these risks before using this product.

**TIMING TO POTATOES**

This product may be applied to potatoes after hilling for the preemergence suppression of the weeds listed in Table - **Weeds Suppressed by Residual Activity of This Product at 1.5 oz/A**. This product should be tank mixed with other labeled herbicides for broad spectrum weed control. A minimum of 2 inches of settled soil must cover the vegetative portion of the potato plant at the time of application of this product. Application to potatoes with less than 2 inches of soil covering the vegetative portion of the potato may result in crop injury. In areas with historically higher amounts of rainfall during the time of preemergence herbicide applications, such as the Red River Valley, Minnesota and North Dakota, the requirement for 2 inches of settled soil is critical to avoid crop injury. Mechanical incorporation of this product will result in decreased weed control and should be avoided. In areas with sprinkler irrigation, this product should be incorporated with 0.5 to 0.75 inches of irrigation, after application and before any sprouts are within 2 inches of the settled soil surface if a rainfall event has not yet occurred.

**TIMING TO WEEDS**

**Preemergence - Soil Covered Potatoes, Preemergence To Weeds**

Apply this product to soil covered potatoes for the preemergence suppression of the weeds listed in Table - **Weeds Suppressed by Residual Activity of This Product at 1.5 oz/A**. Harrowing, cultivation or corrugating after this product application will reduce weed control.

**CHEMIGATION**

This product may be applied through sprinkler system in potatoes. Follow all label directions for crop regarding rates, timing of application, special instructions and precautions.

Apply this product only through center pivot systems. End guns must be turned off due to uneven application. Do not apply this product through any other type of irrigation system.

Crop injury, lack of efficacy or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

The system must be properly calibrated (with water only) to ensure that the amount of this product applied or responds to the specified rate.

Apply this product in 1/2 to 3/4 inches of water during the first sprinkler set. Allow time for all lines to flush the herbicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining herbicide, a dye indicator may be injected into the lines to mark the end of the application period. Once chemigation has begun, the run must be completed to ensure no product is left in the system.

If you have any questions about calibration, you should contact your State Extension Service Specialist, equipment manufacturers or other experts.

**Special Precautions for Chemigation**

1. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
2. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
3. The system must be free of leaks and clogged nozzles.
4. The pesticide must be supplied continuously for the duration of the aqueous application. An uneven application may cause injury to the crop or poor weed control.
5. Agitation must be maintained in the nurse tank.
6. The sprinkler chemigation system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
7. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
8. The pesticide injection pipeline must contain a functional, normally closed, solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in the case where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
10. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
11. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with the pesticides and capable of being fitted with a system interlock.
12. Do not apply when wind speed favors drift beyond the area intended for treatment.

**Chemigation Systems Connected to Public Water Systems**

1. Public water system means a system for the provision to the public of piped water for human consumption, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to the public water system must contain a functional, reduced pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

3. All Chemigation systems connected to the public water system must also follow restrictions listed in the preceding section titled "Special Precautions for Chemigation".

Table - Weeds Suppressed by Residual Activity of This Product at 1.5 oz/A

COMMON NAME	SCIENTIFIC NAME	ORGANIC MATTER	PANTHER HERBICIDE RATE
Lambsquarters, Common	<i>Chenopodium album</i>	Up to 5%	1.5 oz/A
Mustard, Wild	<i>Brassica kaber</i>		
Nightshades			
Black	<i>Solanum nigrum</i>		
Eastern Black	<i>Solanum ptycanthum</i>		
Hairy	<i>Solanum sarrachoides</i>		
Pigweeds			
Palmer Amaranth	<i>Amaranthus palmeri</i>		
Redroot	<i>Amaranthus retroflexus</i>		
Smooth	<i>Amaranthus hybridus</i>		
Spiny Amaranth	<i>Amaranthus spinosus</i>		
Tumble	<i>Amaranthus albus</i>		
Prickly Lettuce (China Lettuce)	<i>Lactuca serriola</i>		
Radish, Wild	<i>Raphanus raphanistrum</i>		

**DIRECTIONS FOR USE IN SOYBEAN**

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 3 oz of this product per acre during a single growing season.
- Do not tank mix this product with acetochlor (Warrant®), alachlor (Micro-Tech®), flufenacet (Axiom®, Domain®), metolachlor (Dual® Magnum, Dual® II Magnum, Boundary®) or dimethenamid (Frontier® or Outlook®) within 14 days of planting soybeans, unless soybeans are planted under no-till or minimum tillage conditions on wheat stubble or no-till field corn stubble.
- Do not irrigate when soybeans are cracking.

**TIMING TO SOYBEANS**

This product may be applied to soybeans prior to planting or preemergence (after planting). Preemergence application of this product must be made within 3 days after planting and prior to soybean emergence. Application after the soybeans have begun to crack, or are emerged, will result in severe crop injury. Application should not be made when soybeans have begun to crack. Select rate of this product from Table - Broadleaf Weeds Controlled by Residual Activity of This Product according to anticipated weed spectrum.

**TIMING TO WEEDS**

**Burndown - Preemergence to Soybeans, Postemergence to Weeds**

This product, applied as part of a burndown program, may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where soybeans will be planted directly into a stale seedbed, cover crop or in previous crop residues. For control of emerged weeds, choose the most appropriate tank mix partner from Table - Tank Mix Partners for Control of Emerged Weeds in Reduced Tillage Soybeans. Apply this product with ground equipment before planting, during planting or within 3 days after planting, but before the crop emerges. To ensure thorough coverage, use a minimum of 15 gals of spray solution per acre. Refer to tank mix partner's label for recommended application pressure. All tank mixes of this product applied to assist in the control of emerged weeds must be applied with crop oil concentrate or methylated seed oil at 1 to 2 pt/A or a non-ionic surfactant at 0.25% v/v.

**INCREASING SPEED OF GLYPHOSATE BURNDOWN ACTIVITY**

This product, at rates as low as 1 oz/A, may be tank mixed with glyphosate (Roundup® or Credit®) to increase the speed of burndown activity compared to glyphosate applied alone. Residual weed control will not be provided at rates lower than 2 oz/A; however, suppression of the weeds in Table - Weeds Suppressed by Residual Activity of This Product, may occur at rates of this product as low as 1 oz/A.

**TANK MIXES**

This product may be tank mixed with the herbicides listed in Table - Tank Mix Partners for Control of Emerged Weeds in Reduced Tillage Soybeans for increased burndown activity, additional residual broadleaf and/or additional grass control. Refer to tank mix partner's label for adjuvant recommendations.

**Table - Tank Mix Partners for Control of Emerged Weeds in Reduced Tillage Soybeans**

TANK MIX PARTNERS	TARGET WEEDS <sup>1</sup>
2,4-D LVE	Marestail Giant Ragweed Dandelion
Paraquat	Annual Grasses Henbit
Glyphosate	General Burndown
Select Max <sup>®</sup>	Annual Grasses
SCEPTER <sup>®</sup> 70DG	Cocklebur Common Sunflower
Weedmaster <sup>®</sup>	Marestail Giant Ragweed Dandelion

<sup>1</sup>Refer to tank mix product labels for specific recommendations for control of emerged weeds present.

**ADDITIONAL RESIDUAL BROADLEAF CONTROL**

This product can be tank mixed with metribuzin, FIRSTRATE<sup>®</sup>, LOROX<sup>®</sup>, PURSUIT PLUS<sup>®</sup>, PYTHON<sup>®</sup>, SQUADRON<sup>®</sup>, SCEPTER or STEEL<sup>®</sup> for additional broadleaf control.

**ADDITIONAL RESIDUAL GRASS CONTROL**

This product can be tank mixed with pendimethalin or COMMAND<sup>®</sup> for additional grass control. Tank mixes with flufenacet (AXIOM or DOMAIN), metolachlor (DUAL products or BOUNDARY), dimethenamid (FRONTIER or OUTLOOK) or alachlor (MICRO-TECH or IntRRo<sup>®</sup>), may result in severe injury to soybeans when application is followed by prolonged periods of cool wet weather and should not be used with this product.

**ROUNDUP READY PROGRAM**

This product may be applied as part of a burndown program or preemergence in conventional tillage programs, at 2 to 3 oz/A to reduce early season weed competition from waterhemp, velvetleaf, nightshade and morningglories as well as other weeds listed in Tables 2 and 3 in ROUNDUP READY programs. A sequential post emergence application of glyphosate will be required to control weeds not controlled by this product.

**DIRECTIONS FOR USE IN STRAWBERRY**

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 3 oz of this product per acre per application.
- Do not apply more than 3 oz of this product per acre during a single growing season.
- This product, at 3 oz per acre, can be applied to the soil a minimum of 30 days prior to transplanting strawberries provided the strawberries will be transplanted through a plastic mulch.
- This product at 3 oz per acre can be applied to dormant (established or newly planted) strawberries for the preemergence control of the weeds listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product.**
- This product, at 3 oz per acre, can be applied in strawberry row middles with a shielded or hooded sprayer for the preemergence control of the weeds listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product.**

Application Method	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre Per Application (oz)	Use Rate Per Acre Per Year (oz)	Special Use Instructions
Pre-transplant	Not applicable	3	3	Apply a minimum of 30 days prior to transplanting and prior to plastic mulch being laid.  Apply as part of a tank mix to control emerged weeds.
Preemergence to dormant strawberries	Not applicable	3	3	Crop oil concentrate, at 1% v/v, or non-ionic surfactant, at 0.25% v/v, may be added to help control emerged broadleaf weeds.
Hooded or shielded sprayer application to row middles	Do not apply after fruit set	3	3	Apply only to row middles - do not apply over strawberries. Apply prior to weed emergence. Crop spotting may occur if an adjuvant is added. <b>Application after fruit set may result in spotting of fruit and should be avoided.</b> Do not allow spray drift to come in contact with fruit or foliage

Table - Weeds Controlled by Preemergence Application of This Product

BROADLEAF WEED SPECIES				
COMMON NAME	SCIENTIFIC NAME	ORGANIC MATTER	SOIL TYPE	TUSCANY HERBICIDE RATE
Bristly Starbur	<i>Acanthospermum hispidum</i>	Up to 10% <sup>1</sup>	All Soil Types <sup>2</sup>	Asparagus, Garlic, Hops 6 oz/A
Carpetweed	<i>Mollugo verticillata</i>			
Chickweeds				
Common	<i>Stellaria media</i>			
Mouseear	<i>Cerastium vulgatum</i>			
Coffee Senna	<i>Cassia occidentalis</i>			
Dandelion	<i>Taraxacum officinale</i>			
Eclipta	<i>Eclipta prostrate</i>			
Eveningprimrose, Cutleaf	<i>Oenothera laciniata</i>			
False Chamomile <sup>3</sup>	<i>Tripleurospermum maritima</i>			
Filaree				
Redstem	<i>Erodium cicutarium</i>			
Whitestem	<i>Erodium moschatum</i>			
Fiddleneck, Coast	<i>Amsinckia menziesii</i>			
Fleabane, Hairy	<i>Conyza bonariensis</i>			
Field Pennycress <sup>3</sup>	<i>Thlaspi arvense</i>			
Florida Beggarweed	<i>Desmodium tortuosum</i>			
Florida Pusley	<i>Richardia scabra</i>			
Golden Crownbeard	<i>Verbesina encelioides</i>			
Groundsel, Common	<i>Senecio vulgaris</i>			
Hairy Indigo	<i>Indigofera hirsuta</i>			
Hemp Sesbania	<i>Sesbania exaltata</i>			
Henbit	<i>Lamium amplexicaule</i>			
Jimsonweed	<i>Datura stramonium</i>			
Kochia	<i>Kochia scoparia</i>			
Lambsquarters, Common	<i>Chenopodium album</i>			
Mallow				
Common (Cheeseweed)	<i>Malva neglecta</i>			
Little	<i>Malva parviflora</i>			
Horseweed/Marestail	<i>Conyza canadensis</i>			
Mayweed/False Chamomile	<i>Matricaria maritima</i>			
Morningglories				
				Bushberries, Grapes, Nut Trees (Including Pistachio), Pome Fruit, Stone Fruit, and Non-Bearing Fruit Trees 6 to 12 oz/A <sup>2</sup>
				To Maintain Bare Ground on Non-Crop Areas of Farms, Orchards & Vineyards 6 to 12 oz/A

Entireleaf	<i>Ipomoea hederacea</i> var. <i>integrifolia</i>
Ivyleaf	<i>Ipomoea hederacea</i>
Red/Scarlet	<i>Ipomoea coccinea</i>
Smallflower	<i>Jacquemontia tamnifolia</i>
Tall	<i>Ipomoea purpurea</i>
<b>Mustards</b>	
London Rocket	<i>Sisymbrium irio</i>
Tansey	<i>Desurainia pinnata</i>
Tumble	<i>Sisymbrium altissimum</i>
Wild	<i>Brassica kaber</i>
Nettle, Burning	<i>Urtica urens</i>
<b>Nightshades</b>	
Black	<i>Solanum nigrum</i>
Eastern Black	<i>Solanum ptycanthum</i>
Hairy	<i>Solanum sarrachoides</i>
<b>Pigweeds</b>	
Palmer Amaranth	<i>Amaranthus palmed</i>
Redroot	<i>Amaranthus retroflexus</i>
Smooth	<i>Amaranthus hybridus</i>
Spiny Amaranth	<i>Amaranthus spinosus</i>
Tumble	<i>Amaranthus albus</i>
Prickly Lettuce (China Lettuce)	<i>Lactuca serriola</i>
Prickly Sida (Teaweed)	<i>Sida spinosa</i>
Puncturevine	<i>Tribulus terrestris</i>
<b>Purslane</b>	
Common	<i>Portulaca oleracea</i>
Horse	<i>Trianthema portulacastrum</i>
Radish, Wild	<i>Raphanus raphanistrum</i>
Ragweed, Common	<i>Ambrosia artemisiifolia</i>
Redmaids	<i>Calandrinia ciliata</i> var. <i>menziessi</i> .
Redweed	<i>Melochia corchorifolia</i>
Shepherd's-purse	<i>Capsella bursa-pastoris</i>
Smellmelon	<i>Cucumis melo</i>
Sowthistle, Annual <sup>3</sup>	<i>Sonchus oleraceus</i>
Spotted Spurge	<i>Euphorbia maculata</i>
Spurred Anoda	<i>Anoda cristata</i>
Thistle, Russian	<i>Salsola iberica</i>
Tropic Croton	<i>Croton glandulosus</i>
Venice Mallow	<i>Hibiscus trionum</i>
<b>Waterhemp</b>	
Common	<i>Amaranthus rudis</i>
Tall	<i>Amaranthus tuberculatus</i>
Wild Poinsettia	<i>Euphorbia heterophylla</i>
White Cockle	<i>Silene latifolia</i>
Wormwood, Biennial	<i>Artemisia biennis</i>
Yellow Rocket	<i>Barbarea vulgaris</i>
<b>GRASS WEED SPECIES</b>	
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bluegrass, Annual	<i>Poa annua</i>
<b>Crabgrass</b>	
Large	<i>Digitaria sanguinalis</i>
Smooth	<i>Digitaria ischaemum</i>
<b>Foxtails</b>	
Bristly	<i>Setaria verticillata</i>
Giant	<i>Setaria faberi</i>
Green	<i>Setaria viridis</i>

Yellow	<i>Setaria glauca</i>		
Goosegrass	<i>Eleusine indica</i>		
Guineagrass	<i>Panicum maximum</i>		
Johnsongrass, Seedling	<i>Sorghum halepense</i>		
Lovegrass, California	<i>Eragrostis diffusa</i>		
Panicum			
Fall	<i>Panicum dichotomiflorum</i>		
Texas	<i>Panicum texaum</i>		
Ryegrass, Italian	<i>Lolium multiflorum</i>		
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>		

<sup>1</sup>This product can be used on soils with greater than 10% organic matter; however, length of residual control may be shorter than on soils with lower organic matter content.

<sup>2</sup>A maximum rate of this product at 6 oz/A per application should be used on any soil that has a sand plus gravel content over 80% if bushes, trees or vines are under 3 years of age.

<sup>3</sup> Not for use in California.

### DIRECTIONS FOR USE IN SUGARCANE

#### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 8 oz of this product per acre per application.
- Do not make a sequential application within 14 days of the first application.
- Do not apply more than 12 oz of this product per acre during a single growing season.
- Do not apply within 90 days of harvest.

#### TIMING TO SUGARCANE

This product may be applied from 2 weeks prior to planting to before the sugarcane emerges, post directed or at layby. Select the proper rate of this product from Table - **Weeds Controlled by Preemergence Application of This Product** according to anticipated weed spectrum and soil organic matter content for preemergence applications. Select rate of this product from Table - **Broadleaf Weeds Controlled by Post-Directed or Layby Application of This Product** according to emerged weed spectrum and weed heights for post-directed and layby applications.

#### TIMING TO WEEDS

##### Burndown — Preemergence to Sugarcane, Postemergence to Weeds

This product may be used for preemergence control, and to assist in postemergence burndown, of many annual broadleaf weeds in sugarcane. For control of emerged weeds, choose the most appropriate tank mix partner from Table - **Tank Mixes with This Product for Post-Directed or Layby Use in Sugarcane**. Apply this product **before the crop emerges**. To ensure thorough coverage, use a minimum of 15 gals of spray solution per acre. All tank mixes of this product applied to assist in the control of emerged weeds must be applied with crop oil concentrate or methylated seed oil at 1 qt/A or a non-ionic surfactant at 0.25% v/v. Some tank mix products, such as Roundup Original Max (glyphosate), may be formulated with a suitable adjuvant and do not require additional adjuvant.

##### Preemergence — Preemergence to Sugarcane, Preemergence to Weeds

This product may be used for preemergence control of many annual broadleaf and grassy weeds in sugarcane. Select rate based on anticipated weed spectrum and soil organic matter content from Table - **Weeds Controlled by Preemergence Application of This Product**. Apply this product **before the crop emerges**.

##### Post-Directed — Postemergence to Sugarcane, Postemergence to Weeds

Post-directed applications should only be made to upright sugarcane varieties after the sugarcane has exceeded 24 inches in height and has begun to joint. Post-directed applications should not be made to "PINEAPPLE" varieties. Post-directed applications to "PINEAPPLE" varieties or to upright varieties that have not exceeded 24 inches in height and have not begun to joint, may result in unacceptable crop injury. To ensure thorough coverage, use a minimum of 15 gals of spray solution per acre. Post-directed applications of this product must include a crop oil concentrate or methylated seed oil at 1 qt/A or a non-ionic surfactant at 0.25% v/v. Select the proper rate of this product based on weed spectrum and weed height from Table - **Broadleaf Weeds Controlled by Post-Directed or Layby Application of This Product**.

##### Layby — Postemergence to Sugarcane, Postemergence to Weeds

Layby applications can be made to upright and "PINEAPPLE" varieties after the sugarcane has exceeded 30 inches in height and the spray solution will not contact foliage above 6 inches from the base of the sugarcane. To ensure thorough coverage, use a minimum of 15 gals of spray solution per acre. Layby applications of this product must be applied with crop oil concentrate or methylated seed oil at 1 qt/A or a non-ionic surfactant at 0.25% v/v. Select the proper rate of this product based on weed spectrum and weed height from Table - **Broadleaf Weeds Controlled by Post-Directed or Layby Application of This Product**.

**Table - Broadleaf Weeds Controlled by Post-Directed or Layby Application of This Product in Sugarcane**

BROADLEAF WEED SPECIES		WEED HEIGHT (inches)	
COMMON NAME	SCIENTIFIC NAME	3 oz/A	4 oz/A
Bindweed, Field	<i>Convolvulus arvensis</i>	4	8
Carpetweed	<i>Mollugo verticillata</i>	4	4
Cocklebur, Common	<i>Xanthium strumarium</i>	4	4
Florida Beggarweed	<i>Desmodium tortuosum</i>	2	2
Hemp Sesbania	<i>Sesbania exaltata</i>	6	8
Jimsonweed	<i>Datura stramonium</i>	4	4
Lambsquarters, Common	<i>Chenopodium album</i>	4	4
Morningglories			
Entireleaf	<i>Ipomoea hederacea</i> var. <i>integriuscula</i>	-	4
Ivyleaf	<i>Ipomoea hederacea</i>	4	4
Pitted	<i>Ipomoea lacunosa</i>	4	6
Red	<i>Ipomoea coccinea</i>	-	4
Tall	<i>Ipomoea purpurea</i>	2	4
Mustard, Wild	<i>Brassica kaber</i>	6	6
Pigweeds			
Palmer Amaranth	<i>Amaranthus palmeri</i>	4	6
Redroot	<i>Amaranthus retroflexus</i>	4	6
Smooth	<i>Amaranthus hybridus</i>	4	6
Plaintain, Broadleaf	<i>Plantago major</i>	6	6
Prickly Sida	<i>Sida spinosa</i>	4	6
Purslanes			
Common	<i>Portulaca oleracea</i>	2	4
Rock	<i>Calandrinia</i> spp.	-	2
Ragweeds			
Common	<i>Ambrosia artemisiifolia</i>	2	2
Giant	<i>Ambrosia trifida</i>	4	4
Rice Flatsedge	<i>Cyperus iria</i>	2	4
Sicklepod	<i>Senna obtusifolia</i>	4	4
Smartweeds			
Ladysthumb	<i>Polygonum persicaria</i>	4	4
Pale	<i>Polygonum lapathifolium</i>	4	4
Pennsylvania	<i>Polygonum pennsylvanicum</i>	4	4
Spotted Spurge	<i>Euphorbia maculata</i>	4	4
Velvetleaf	<i>Abutilon theophrasti</i>	4	6
Venice Mallow	<i>Hibiscus trionum</i>	2	2
Waterhemp			
Common	<i>Amaranthus rudis</i>	2	2
Tall	<i>Amaranthus tuberculatus</i>	2	2

Tank mixes of this product will only control the above ground portion of field bindweed. Repeated applications will be needed to control regrowth.

**TANK MIXES**

This product may be tank mixed with the herbicides listed in Table **Tank Mixes with This Product for Post-Directed or Layby Use In Sugarcane** for additional weed control in burndown, preemergence, post-directed and layby applications. Refer to tank mix partner's label for adjuvant recommendations.

**Table - Tank Mixes with This Product for Post-Directed or Layby Use In Sugarcane**

TANK MIX PARTNER <sup>1</sup>	TARGET WEEDS	BURNDOWN	POST-DIRECTED <sup>2</sup>	LAYBY
2,4-D amine	Annual and Perennial Broadleaf Weeds	X		
Atrazine	Pigweeds Cocklebur	X	X	X
Asulox <sup>3</sup>	Annual Grasses		X	X
Evik <sup>4</sup>	Annual Grasses		X	X
Glyphosate <sup>5</sup>	Annual and Perennial Weeds	X		X
Metribuzin <sup>6</sup>	Broadleaf Panicum Goosegrass		X	X
Sempra <sup>®</sup>	Purple Nutsedge Yellow Nutsedge	X	X	X
Weedmaster <sup>®</sup>	Annual and Perennial Broadleaf Weeds	X		

<sup>1</sup> Refer to tank mix product labels for specific recommendations for control of emerged weeds present not listed in Table - **Broadleaf Weeds Controlled by Post-Directed or Layby Application of This Product.**

<sup>2</sup> Post-directed applications should only be made to upright sugarcane varieties after the sugarcane has exceeded 24 inches in height. Post-directed applications should not be made to "PINEAPPLE" varieties. Post-directed applications to "PINEAPPLE" varieties or to upright varieties that have not exceeded 24 inches in height may result in unacceptable crop injury.

<sup>3</sup> Apply to sugarcane at least 24 inches tall.

<sup>4</sup> Apply before weeds are greater than 6 inches tall.

<sup>5</sup> Glyphosate applications must be made with a hooded sprayer. Sugarcane must be at least 3 ft. tall. Contact with the sugarcane foliage by either the spray mixture or the treated weed foliage will result in sugarcane injury.

<sup>6</sup> Refer to metribuzin label for restrictions based on soil type.

**ADDITIONAL PREEMERGENCE BROADLEAF CONTROL**

This product can be tank mixed with atrazine or diuron for additional preemergence broadleaf control.

**ADDITIONAL PREEMERGENCE GRASS CONTROL**

This product can be tank mixed with PROWL (or other pendimethalin products) for additional preemergence grass control provided sugarcane has not emerged.

**DIRECTIONS FOR USE IN SWEET POTATO**  
[For Use in the States of Arizona, California and Hawaii Only]

**RESTRICTIONS AND LIMITATIONS**

- Do not apply more than 3 oz of this product per acre during a single growing season.
- Do not apply postemergence to sweet potatoes.
- Do not use greenhouse grown transplants.
- Do not use transplants harvested more than 2 days prior to transplanting.
- Do not use on any sweet potato variety other than "BEAUREGARD", unless user has tested this product on other variety and has found crop tolerance to be acceptable.
- Do not apply as a part of any tank mix, except with labeled rates of COMMAND, if tank mix is applied prior to transplanting.

**TIMING TO SWEET POTATOES**

This product must be applied prior to transplanting sweet potatoes.

**TIMING TO WEEDS**  
**Preemergence To Weeds**

Apply this product to soil prior to transplanting sweet potato slips for the preemergence control of the weeds listed in Table - **Broadleaf Weeds Controlled by Residual Activity of This Product.**

## DIRECTIONS FOR USE IN ALMONDS, BUSHBERRIES, GRAPES, NUT TREES (INCLUDING PISTACHIOS), POME FRUIT, STONE FRUIT AND NON-BEARING FRUIT AND NUT TREES

### RESTRICTIONS AND LIMITATIONS

- Do not apply more than 12 oz of this product per acre during a single application.
- Do not apply more than 24 oz of this product per acre during a 12 month period, except Bushberries; for Bushberries do not apply more than 12 oz of this product per acre during a 12 month period.
- Do not make a sequential application within 30 days of the first application, except nut trees, do not make a sequential application within 60 days of the first application.
- A maximum rate of this product of 6 oz/A per application should be used on any soil that has a sand plus gravel content over 80% if bushes, trees or vines are less than 3 years of age. (Two applications of 6 oz/A in a 12 month period can still be made as long as there have been 60 days between applications).
- Do not apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation.
- Do not apply within 300 yards of non-dormant pears.
- Raise mower height during all mowing to reduce dust. Dust created by mowing can drift onto desirable vegetation resulting in injury.
- Do not apply to powdery soils or soils that are susceptible to wind displacement unless irrigation can be applied immediately after application.
- [Do not mow treated areas between bud break and final harvest. Dust created by mowing may drift onto desirable vegetation resulting in injury.]
- Follow the most restrictive label limitations and precautions of the tank mix product(s) being used.
- Avoid direct or indirect spray contact to foliage and green bark (non-barked trunk and non-barked vines with the exception of undesirable suckers).

For bushberries, grape, nut trees (including pistachio) and non-bearing fruit trees, this product should be applied as a uniform broadcast application to the orchard or vineyard floor or as a uniform band directed at the base of the bush, trunk or vine. For pome fruit and stone fruit, this product can only be applied as a uniform band directed at the base of the trunk prior to "pink bud" in apple and "bud break" in stone fruit and pear. The preferred application timing for this product is in the fall to maximize the potential for rainfall to activate and set the herbicide. Do not apply over the top of crop or allow spray to come in contact with crop as a result of application or drift.

### Preemergence Application

Apply 6 to 12 oz (0.188 to 0.38 lb ai/A) of this product per broadcast acre as a preemergence application. Preemergence (to weed emergence) applications of this product should be made to a weed-free soil surface. Preemergence applications of this product must be completed prior to weed emergence. Moisture is necessary to activate this product on soil for residual weed control. Dry weather following application of this product may reduce effectiveness. However, when adequate moisture is received after dry conditions, this product will control susceptible germinating weeds.

### Postemergence Application

Apply 6 to 12 oz (0.188 to 0.38 lb ai/A) of this product per broadcast acre plus an adjuvant (0.25% v/v non-ionic surfactant or 1 qt/A crop oil concentrate). The addition of an adjuvant enhances activity of this product on emerged weeds. Thorough spray coverage is necessary to maximize the postemergence activity of this product.

Refer to Table - **Weeds Controlled by Preemergence Application of This Product** for weeds controlled by the residual activity of this product. This product should be tank mixed with a labeled burndown herbicide for control of the emerged weeds listed in Table 13. Refer to tank mix partner's label for additional weed species and increased weed heights claimed. Refer to tank mix partner's label for additional restrictions, including minimum carrier volume and crops in which tank mix partner may be used. Burndown tank mix partners include glyphosate, paraquat, 2,4-D and RELY®. Tank mixes with glyphosate or 2,4-D containing products are not recommended during the period after bloom through final harvest to ensure crop safety from drift.

Residual weed control will be reduced if vegetation prevents this product from reaching the soil surface. If vegetation is heavy, it is recommended to use a burndown herbicide with this product and make a sequential application of this product prior to the emergence of new weeds.

**Carrier Volume and Spray Pressure**

To ensure thorough coverage in burndown applications, use a minimum of 15 gallons of spray solution per acre. Use higher gallonage if dense vegetation or heavy crop residue is present.

Nozzle selection should meet manufacturer's gallonage and pressure specifications.

**Banded Application**

Rates listed in **Weeds Controlled by Postemergence Activity of This Product Tank Mixes** Table refer to a broadcast application covering the entire acre. When making a banded application, the rate must be reduced according to the following formula:

Amount Needed per Acre for Banded Application	=	$\frac{\text{Band Width in Inches}}{\text{Row Width in Inches}}$	X	Rate per Broadcast Acre
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**USE PRECAUTIONS FOR BUSHBERRIES**

Bushberries: Aronia Berry, Black Currant, Blueberry (Highbush, Rabbit-eye and Lowbush), Buffalo Currant, Chilean Guava, Cranberry (Highbush), Elderberry, European Barberry, Gooseberry, Honeysuckle (edible), Huckleberry, Jostaberry, Juneberry, Lingonberry, Native Currant, Red Currant, Salal and Sea Buckthorn

- Do not use in the states of Idaho, Oregon or Washington except west of the Cascade Mountains in the following counties:
- **Oregon:** Benton, Clackamas, Clatsop, Columbia, Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Linn, Marion, Multnomah, Polk, Tillamook, Umatilla, Yamhill and Washington
- **Washington:** Benton, Clallam, Clark, Cowlitz, Franklin, Grant, Grays Harbor, King, Jefferson, Kitsap, Lewis, Pacific, Pierce, Skagit, Snohomish, Thurston, Wahkiakum, Walla Walla and Whatcom
- Do not apply to Bushberries established less than 2 years unless they are protected from spray contact by nonporous wrap, grow tubes or waxed containers.
- Do not apply within 7 days of harvest.

**USE PRECAUTIONS FOR GRAPES**

- Do not apply within 60 days of harvest.
- Do not apply to grapes established less than 2 years unless they are trellised at least 3 ft. from the soil surface or are protected from spray contact by non-porous wrap, grow tubes or waxed containers.
- Do not apply to grapes that are not trellised or staked unless they are free standing.
- Avoid direct or indirect spray contact to foliage and green bark (non-barked vines, with the exception of undesirable suckers).
- New plantings of "own-rooted varieties", such as Concord, should be planted so that all roots are a minimum 8 inches below the soil surface to be treated. In some situations, this may require hilling soil around newly planted vines so that the settled depth of the hill will be 4 to 5 inches above the vineyard floor.

**Juice, Raisin and Wine Grapes**

Do not apply during the period after bud break through final harvest, unless using shielded application equipment and applicator can ensure spray drift will not come in contact with crop fruit or foliage. Shielded applications during this time period should not be made with glyphosate or products containing glyphosate.

**Table Grapes**

- This product may be applied during the period following final harvest up to bud break.
- Do not apply after bud break.

**USE PRECAUTIONS FOR ALMONDS NUT TREES (INCLUDING PISTACHIOS), POME FRUIT AND STONE FRUIT**

Nut Trees: Almond, Beechnut, Betelnut, Black Walnut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, English Walnut, Filbert (Hazelnut), Ginkgo, Heartnut, Hickory Nut, Macadamia Nut, Oak, Pecan, Pili Nut, Pine Nut, Pistachio and Tropical Almond, Pome Fruit: Apple, Crabapple, Loquat, Mayhaw, Pear, Pear (oriental) and Quince  
Stone Fruit: Apricot, Cherries (Sweet and Tart), Nectarine, Peach, Plum (Chickasaw, Damson, Japanese), Plumcot and Prune

- **California only:** For almonds and stone fruit in the counties of Merced, San Joaquin and Stanislaus, see **USE PRECAUTIONS FOR ALMOND AND STONE FRUIT IN DEFINED AREAS OF MERCED, SAN JOAQUIN AND STANISLAUS COUNTIES OF CALIFORNIA** use instructions.
- For pome fruit and stone fruit, this product can only be applied as a uniform band directed at the base of the trunk prior to silver tip in apples and bud break in stone fruit.
- Do not apply to pears in the states of Oregon or Washington.
- For pome fruit and stone fruit do not apply to row middles (area between berms)
- For nut trees (including Almonds and Pistachios) apply after bud break through final harvest using shielded application equipment if the applicator can ensure the spray drift will not come into contact with non-target vegetation, crop fruit and/or foliage. Shielded application equipment is not required if the following application parameters are followed:
  - Application pressure (at boom) < 30 PSI.
  - Application speed < 5 MPH.
  - Applicator can ensure the spray drift will not come into contact with non-target vegetation, crop fruit and/or foliage.
- Do not apply within 60 days prior to harvest.
- Do not apply to trees established less than one year, unless protected from spray contact by non-porous wraps, grow tubes, paint or waxed containers.
- Do not use in the states of Oregon or Washington except in the following counties unless the additional restrictions listed below are followed:

**Oregon:** Benton, Clackamas, Clatsop, Columbia, Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Linn, Marion, Morrow, Multnomah, Polk, Tillamook, Umatilla, Yamhill and Washington

**Washington:** Clallam, Cowlitz, Grays Harbor, King, Jefferson, Kitsap, Lewis, Pacific, Pierce, Skagit, Snohomish, Thurston, Wahkiakum and Whatcom

- For apples east of the Cascade Mountains in Washington (counties not listed above), follow the restrictions above plus:
  - o Apply between final harvest and January 1.
  - o Apply only to apple blocks with an established (2 years or older) permanent cover crop that covers a minimum of 60% of the surface area in the block.
  - o Application must be incorporated with a minimum of one half inch of water within 48 hours after application.
  - o Do not apply to powdery soils or soils susceptible to wind displacement.
  - o Apply only to orchard berms.
  - o Do not mow the treated berm areas of the orchard.

**USE PRECAUTIONS FOR NON-BEARING FRUIT TREES AND NUT TREES**

Non-Bearing Apple, Apricot, Avocado, Cherry, Fig, Grapefruit, Hazelnut, Lemon, Nectarine, Olive, Orange, Peach, Pear, Pecan, Plum (including Dried Plum), Pomegranate, and Tangerine and Walnut.

- Do not apply more than 12 oz of this product per acre during a single application.
- Do not apply more than 24 oz of this product per acre during a 12 month period.
- Do not harvest fruit from treated trees within one year of application.
- Do not apply to trees established less than one year, unless protected from spray contact by non-porous wraps, grow tubes or waxed containers.
- Do not apply during the period after flowering through leaf drop, unless using shielded application equipment and the applicator can ensure spray drift will not come in contact with the crop foliage.

**USE PRECAUTIONS FOR ALMOND AND STONE FRUIT IN DEFINED AREAS OF MERCED, SAN JOAQUIN AND STANISLAUS COUNTIES OF CALIFORNIA**

The use of this product in soils common in parts of Merced, San Joaquin and Stanislaus counties in California is known to have resulted in injury to almonds under drought stress conditions. These soils are characterized by having been cut or filled, high sand content, low clay content and shallow profiles. Growers in the Defined Area must be aware and assume the risk of using this product almond or stone fruit crops. The Defined Area can be seen on the Map or by the description that follows:

- Intersection of Highway 4 and Escalon Bellota Road at Farmington in San Joaquin County;
- Directly South on Escalon-Bellota to the Santa Fe Avenue and railroad tracks at Escalon
- Southeast on Santa Fe Avenue down to the Merced River;
- East following the Merced River to the Merced/Mariposa County line;
- Northwest following the Merced County line through the intersection of Merced and Stanislaus County line following the Stanislaus/Tuolumne County and Calaveras County line to Highway 4;
- West on Highway 4 back to the Farmington intersection of Escalon — Bellota Road.

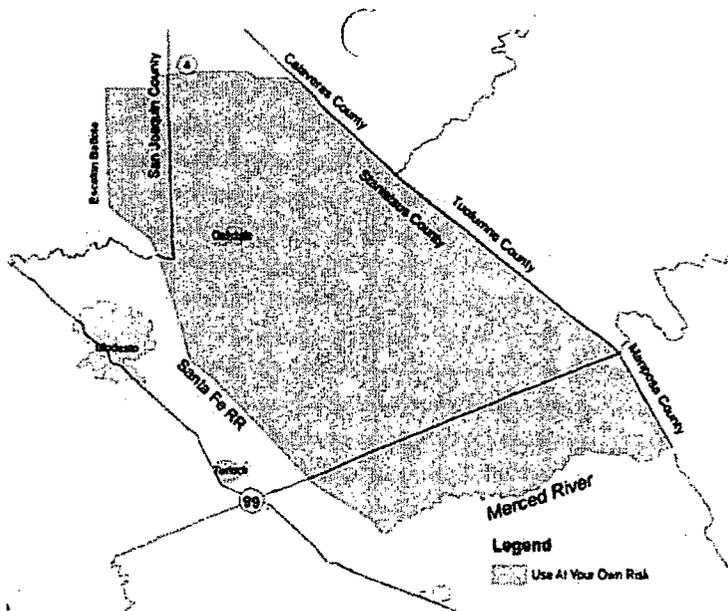


Table - Weeds Controlled by Postemergence Activity of This Product Tank Mixes

BROADLEAF WEED SPECIES			
COMMON NAME	SCIENTIFIC NAME	WEED HEIGHT/LENGTH (inches)	TUSCANY HERBICIDE RATE
Bindweed, Field <sup>1</sup>	<i>Convolvulus arvensis</i>	8	6 to 12 oz/A
Carpetweed	<i>Mollugo verticillata</i>	4	
Chickweeds			
Common	<i>Stellaria media</i>	4	
Mouseear	<i>Cerastium vulgatum</i>	4	
Cocklebur, Common	<i>Xanthium strumarium</i>	4	
Eveningprimrose, Cutleaf <sup>2</sup>	<i>Oenothera laciniata</i>	12	
Filaree			
Broadleaf	<i>Erodium botrys</i>	4	
Redstem	<i>Erodium cicutarium</i>	4	
Florida Beggarweed	<i>Desmodium tortuosum</i>	2	
Hemp Sesbania	<i>Sesbania exaltata</i>	8	
Jimsonweed	<i>Datura stramonium</i>	4	
Lambsquarters, Common	<i>Chenopodium album</i>	4	
Morningglories			
Entireleaf	<i>Ipomoea hederacea</i> var. <i>integriuscula</i>	4	
Ivyleaf	<i>Ipomoea hederacea</i>	4	
Pitted	<i>Ipomoea lacunosa</i>	6	
Red/Scarlet	<i>Ipomoea coccinea</i>	4	
Tall	<i>Ipomoea purpurea</i>	4	
Mustard, Wild	<i>Brassica kaber</i>	6	
Pigweeds			
Palmer Amaranth	<i>Amaranthus palmeri</i>	6	
Redroot	<i>Amaranthus retroflexus</i>	6	
Smooth	<i>Amaranthus hybridus</i>	6	
Plantain, Broadleaf	<i>Plantago major</i>	6	
Prickly Sida (Teaweed)	<i>Sida spinosa</i>	6	
Purslanes			
Common	<i>Portulaca oleracea</i>	4	
Rock	<i>Calandrinia</i> spp.	2	
Ragweeds			
Common	<i>Ambrosia artemisiifolia</i>	2	

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Giant	<i>Portulaca oleracea</i>	4
Rice Flatsedge	<i>Cyperus iria</i>	4
Sicklepod	<i>Senna obtusifolia</i>	4
Smartweeds		
Ladysthumb	<i>Polygonum persicaria</i>	4
Pale	<i>Polygonum lapathifolium</i>	4
Pennsylvania	<i>Polygonum pennsylvanicum</i>	4
Spotted Spurge	<i>Euphorbia maculata</i>	4
Velvetleaf	<i>Abutilon theophrasti</i>	4
Venice Mallow	<i>Hibiscus trionum</i>	4
Waterhemp		
Common	<i>Amaranthus rudis</i>	2
Tall	<i>Amaranthus tuberculatus</i>	2

<sup>1</sup> This product will only provide control of the above ground portion of bindweed. Repeated applications will be needed to control regrowth.

<sup>2</sup> For acceptable control, cutleaf evening primrose should be 12 inches or less and in the rosette stage. Crop oil concentrate, at 1 pt/A, or non-ionic surfactant at 0.25% v/v, should be added to glyphosate tank mixes for cutleaf evening primrose control, including glyphosate formulations that contain a built-in adjuvant system.

**ADDITIONAL RESIDUAL WEED CONTROL**

This product may be tank mixed with oryzalin (SURFLAN®), simazine or diuron for additional residual weed control. Always read and follow label use directions for all products being used.

**DIRECTIONS FOR USE TO MAINTAIN BARE GROUND  
ON NON-CROP AREAS OF FARMS, ORCHARDS AND VINEYARDS**

**RESTRICTIONS AND LIMITATIONS**

- Do not apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation.
- Do not apply to ditch banks.

This product, when used as directed, can be used on farms, orchards and vineyards for non-selective vegetation control to maintain bare ground on non-crop areas that must be kept weed free. Follow all applicable directions as outlined above under "USE INFORMATION".

This product offers residual and postemergence control of susceptible broadleaf and grass weeds as well as an additional mode of action to assist in the control of ALS (acetolactate synthase) resistant weeds. This product can be tank mixed with the herbicides listed in Table - **Tank Mix Combinations to Maintain Bare Ground Non-Crop Areas** for increased residual or postemergence control. The length of residual control is dependent on the rate applied as well as on rainfall and temperature conditions. Length of residual control will decrease as temperature and precipitation increase. Rates of this product of 6 to 12 oz/A are required to provide residual control of the weeds listed in Table - **Weeds Controlled by Preemergence Application of This Product**.

**PREEMERGENCE APPLICATION**

Apply 6 to 12 oz (0.188 to 0.38 lb ai/A) of this product per broadcast acre as a preemergence application. Preemergence (to weed emergence) applications of this product should be made to a weed-free soil surface. Preemergence applications of this product must be completed prior to weed emergence. Moisture is necessary to activate this product on soil for residual weed control. Dry weather following application of this product may reduce effectiveness. However, when adequate moisture is received after dry conditions, this product will control susceptible germinating weeds.

**POSTEMERGENCE APPLICATION**

Apply 6 to 12 oz (0.188 to 0.38 lb ai/A) of this product per broadcast acre plus an adjuvant (0.25% v/v non-ionic surfactant or 1 qt./A crop oil concentrate). The addition of an adjuvant enhances activity of this product on emerged weeds. Thorough spray coverage is necessary to maximize the postemergence activity of this product. Emerged weeds are controlled postemergence with this product, however, translocation of this product within a weed is limited, and control is affected by spray coverage and by the addition of an adjuvant. The most effective postemergence weed control with this product occurs when applied in combination with a surfactant to weeds less than 2 inches in height. A tank mix partner should be used in combination with this product for the postemergence control of weeds larger than 2 inches. Recommended tank mix partners are listed in Table - **Tank Mix Combinations to Maintain Bare Ground Non-Crop Areas**.

**IMPORTANT:** Completely read and follow the label of any potential tank mix partner with this product. When using tank mixtures, use conditions must be in accordance with the most restrictive of the label limitations and precautions on either herbicide label.

**Table – Tank Mix Combinations to Maintain Bare Ground on Non-Crop Areas**

Glyphosate	2,4-D	Rely	Paraquat
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**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment.

**PESTICIDE STORAGE**

Keep pesticide in original container. Store in a cool, dry, secure place. Do not put formulation or dilute spray solution into food or drink containers. Do not contaminate food or foodstuffs. Do not store or transport near feed or food. Not for use or storage in or around the home. For help with any spill, leak, fire or exposure involving this material, call day or night **CHEMTREC (800) 424-9300**.

**PESTICIDE DISPOSAL**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING**

[Note to Reviewer: The following statement will be included on all Final Printed Labels bearing multiple Container Disposal (Container Handling) statements] "NOTE: This product is available in multiple containers. Refer to the Net Contents section of this products labeling for the applicable "Nonrefillable" or "Refillable" designation. Follow the container disposal [handling] instructions below that apply to your container type / size."

[Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available or puncture and dispose of in a sanitary landfill.]

- or -

**Note to EPA reviewer: if this product is shipped in containers greater than 50 lbs, the following container handling statement will be added to the label:**

[Container statement for Nonrefillable container with liner]

[**Nonrefillable bag:** Do not reuse or refill this bag. Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into equipment. Do not reuse bag. Dispose of bag in a sanitary landfill or by incineration if allowed by State and local authorities. Offer for recycling if available. Liner: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into equipment. Do not reuse liner. Dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities.]

- or -

[Container statement for Nonrefillable drum with liner]

[**Nonrefillable container:** Do not reuse or refill this container. Offer for recycling if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Liner: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into equipment. Do not reuse liner. Dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities.]

**WARRANTY DISCLAIMER**

The directions for use of this product must be followed carefully. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.**

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CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.**

(RV112012)

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**LABEL HISTORY**

<b>File Name</b>	<b>Revision Mark</b>	<b>Comments</b>
071368-00XXX.20120615.NUP-12058.New	RV061512	New Section 3 Label - Draft
071368-00RNE.20121004.NUP-12058.New	RV100412	Changes per EPA E-mail 10/04/2012 – incorporation of 7 Supplemental Labels
071368-00RNE.20121005.NUP-12058.New	RV100512	Changes per EPA E-mail 10/04/2012
071368-00102.20121010.MASTER	RV101012	EPA SAL
071368-00102.20121029.EPA Notification	RV102912	EPA Notification PBNC and ABN Addition
071368-00102.20131120.MASTER	RV112013	EPA Accepted Notification
071368-00102.20130827.EPA Notification	RV082713	EPA Notification CA